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TUC and tutors clash

by Maggie Richards

A deep rift between industrial tutors and TUC officials has developed in the east over the content of courses for trade unionists.

In Liverpool claims about the exclusion of one tutor from some trade union courses led last month to an industrial tribunal hearing and an informal settlement.

In Manchester provision of courses by the university's extramural department has been affected. While courses run by the department have been added, similar studies organized by Manchester Polytechnic have increased. The dispute comes at a critical time for tutors in Manchester as the city's Labour-controlled education committee has embarked upon a wide-scale examination of provision with a view to its expansion.

Behind the row lies the whole question of whether trade unionists should concentrate solely on workplace studies, or whether they should also consider the political implications of their studies. The TUC nationally provides funding for such courses from its Government, and has been anxious to ensure that courses remain closely related to workplaces, in order to qualify for grant aid.

Ms Eileen Hooley, a part-time industrial tutor for the Workers' Education Association last month secured a £80 out-of-court settlement after agreeing not to proceed further with a case of sex discrimination against the WEA. She had claimed her workload had been reduced after her return from maternity leave, and a male tutor seemed to fulfill some of her previous duties.

Ms Hooley claimed her workload had been reduced because she had advised current trade union course content and attempted to incorporate the discussion of wider issues. The WEA this week said this was not the case.

In Manchester discussions have been taking place between a university representative and the TUC at regional level about the position of an industrial tutor in the extramural department. Mr John McIlroy, who, some time ago, publicly criticized the TUC for the narrow nature of its courses.

Since then the number of courses at the university has declined, while at Manchester Polytechnic outside has increased.

This week the acting director of the extramural department Dr John Smith continued on page 3



CHARIOT OF FIRE: members of the Christ Church College, Oxford rowing eight leap the burning timbers of their boat during victory celebrations last Saturday. The college eight emerged as "heads of the river" after the traditional three-day Oxford boat races, breaking a seven-year run by Oriel College.

Stirling takes first steps in plan to safeguard Scotland

by Olga Wojtas
Scottish Correspondent

Stirling University has drawn up a mid-term plan for coping with the latest cuts which involves transferring staff among Scotland's eight universities and axing a number of honours courses.

Stirling's principal, Sir Kenneth Alexander, warns in a letter accompanying the confidential plan that the university can no longer follow its academic plan drawn up after the 1981 cuts, which said all subjects should continue in the hope that Government would later allow further development.

Stirling must now consolidate its strengths, and "the interests of the university as a whole must take precedence in the process of deciding which subjects should contract."

But he suggests as a possible solution which will safeguard staff members' interests the court's backing for the Scottish principals to investigate the scope for rationalizing small departments. The THES revealed last month that the Scottish principals are planning joint action to ensure that a full range of subjects is maintained in Scotland.

The document from Stirling's planning and resources committee suggests that some staff in physics, fine art and music and mathematics may transfer to other universities. Honours options in physics, fine art and music and business law and economics should be axed, it recommends.

This would take a minimum of five years to achieve without "special arrangements such as the transfer of students to another university to complete their courses", it points out, but stresses that provision must be made to honour commitments to current students.

Stirling's problems have been exacerbated by its having a very young staff: cuts in income of between 8 per cent and 14 per cent over the next five years imply a loss of between 20 and 35 staff, but only 5 academics are due to retire by mid-1990, says the report.

But it does not envisage academic transfers all being one way. It suggests that staff come in from other universities to increase Stirling's strengths in environmental science, politics, Spanish, religious studies and perhaps film and media studies.

The document, which has been circulated to boards of studies and heads of department will be discussed at next week's academic council in conjunction with a report on research and a final decision being taken in the autumn.

Both the local Association of University Teachers and the students' association were reluctant to comment until the document has been discussed.

But student president Mr Richard Leonard said the proposal to transfer students was particularly disturbing since a major reason for many students choosing Stirling was its unique flexibility of courses.

Dundee and St Andrews University, which formed one institution until Dundee became autonomous in 1967, are meanwhile considering closer collaboration with a merger between their two geography and geology departments.

The present situation cannot continue, the joint committee on inter-university collaboration has concluded, since "all four departments are already 'small' when compared with others in the UK and face a slow death by attrition."

However, the move poses considerable problems. Stirling geology in one university and geography in the other would create severe practical difficulties and is opposed by the academics involved, says the report.

But while concentrating both in one institution is attractive "both academically and politically", neither university seems likely to agree to surrender both disciplines to the other, it adds.

Dundee is also considering axing its department of mechanical engineering following inadvertent collaboration with Aberdeen University. Professor Allan Barr, Dundee's mechanical engineering professor, is to join Aberdeen's new engineering faculty.

The faculty board of engineering and applied sciences opposes axing the subject, particularly since the government is encouraging a shift from arts to science and technology and says the refilled chair should be supported by two lectureships.

But the principal and dean's committee has recommended that there should be no undergraduate intake to mechanical engineering from next year. Dundee's court is expected to make a final decision before the end of this session.

Sandwich courses don't give value for money, says report

by John O'Leary

An inter-departmental report, which has been substantially redrafted after disagreements behind the scenes, will cast doubt on the extent to which sandwich courses are giving value for the £36 million they are said to cost each year.

The RISE (Research into Sandwich Education) report is expected to be published next week after three years of deliberations. Criticisms of sandwich courses both on grounds of quality and cost-effectiveness have been toned down considerably since a first draft was circulated last year.

Members of the committee involved with sandwich courses demanded change, claiming that the whole tone of the report was hostile and the very existence of the sector was being called

into question.

The final draft is guarded about whether the courses are meeting their objectives. The report says it is not clear how far the general satisfaction expressed by staff and students is justified.

"Despite the generous financial provision made by the funding arrangements for sandwich courses at advanced further education institutions, concern is frequently expressed at the work entailed for staff there, if sandwich courses are to be fully effective," it says.

"Similarly, the apparent recognition of the advantages to them of sandwich placements is belied by the fact that many employers do not offer placements. Given the evidence before it, the committee found this surprising."

The extra cost of sandwich courses is put at £25 million for English public sector institutions, £4.5 million in Wales and approximately £7 million in the universities. The committee describes the level of funding as "not ungenerous compared with the actual costs incurred."

It makes four main recommendations:

- critical evaluation by institutions of placements to ensure stability;
- concerted efforts by institutions and employers to "secure the closest practicable relationship between the academic course content and supervised work experience";
- flexibility within institutions between sandwich and full-time provision;
- greater awareness by employers of

the potential benefits to them of sandwich placements and increased willingness to provide them.

Four research projects, surveying graduate employment and those offering placements, making an appraisal of sandwich courses and tracing longer-term career progression, were commissioned by the committee. They found little advantage either in securing a job or in promotion prospects for sandwich students.

The committee, which included representatives of several Government departments as well as members from the academic world, added a final conclusion that sandwich courses were valuable for their encouragement of mutually beneficial links between higher education and industry.

French boost for high-tech

from David Dickson

PARIS

The French government is drawing up plans for an ambitious five-year programme aimed at raising both the effectiveness and the status of engineering and technology subjects, to be submitted to the national assembly by the end of June.

According to the minister of national education, M Jean-Pierre Chevènement, one of the main thrusts of this plan will be to increase significantly the output of engineering and technology graduates, with the goal of doubling the present numbers by the end of the century.

Complementary to this will be a major restructuring of the courses and qualifications available to those in the 16-19 age group. These will in particular include a new set of exams known as the "professional baccalauréat" offering training skills required by high technology industries.

M Chevènement said that achieving the increase would require the creation of at least five new technological universities over the next five years. At present, there is only one technical university in France, the University of Compiègne, north of Paris.

In some cases, the new universities - each of which will initially be expected to produce about 500 graduates a year - may be created within the framework of existing institutions.

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Polys win share of 'switch' cash

The polytechnics this week won their battle for a share of the Government's £43 million "switch" initiative to boost engineering and technology.

Sir Keith Joseph, Secretary of State for Education and Science, announced that he was seeking advice from the National Advisory Body and its Welsh counterpart on allocations in the second phase of the programme.

He was doing so "in the light of further advice from representatives of industry", Sir Keith said in answer to a Parliamentary Question. The two bodies would be asked to recommend institutions of particular strength in engineering and technology.

It is likely that the NAB will be given a predetermined share of the money available for the second year of the initiative.

Bids are to be restricted to the polytechnics, with the outline of the selection process going before the NAB board next week. Mr Christopher Ball, chairman of the NAB board, said: "I am very pleased that the contribution of the polytechnics has been recognized and particularly pleased that this has come about through the strong advice of representatives of industry."



Politics and the police, 20

DON'S DIARY

MONDAY

No campus novelties could get away with creating anything so improbably bizarre as my morning route to the department. I get out at Moorgate tube station, ascend an elevator, then follow a painted yellow line through the Barbican tower blocks towards the Arts Centre. (This morning I notice there is a break in it, and wonder if I didn't ought to phone in and say I can't make it today.) It then gets complicated. A plunge into a sort of air conditioned tube, sloping downhill. Then past a vast queue of youngsters waiting for tickets for the RSC. Sudden right in dangerous, unmarked territory now and through two swinging doors. Then into a secret little lift which takes me up to Level 12.

"Tube chaos" has been threatened this morning, and as I have been whisked in on the half-empty Circle line I have read in other people's headlines dire prophecies of commuting disasters. I expect therefore that the students will have stayed in bed. Quite wrong. A better attendance than last week. We settle down to discuss the functions of boards in arts organizations.

TUESDAY

The Barbican again seems, improbably enough, an island of tranquillity in a disintegrating chaos. From my balcony I can see orderly children attending its well-equipped schools, and I can hear music from the Guildhall. Meanwhile, far below in what looks like a built-up stadium but is actually, I am told, a sculpture court, musicians, actors and their well-dressed publics take the morning air. Hard to believe that the state education system and the state arts subsidy system are both in such turmoil.

Thank heavens our students dislike the place sufficiently to avoid spending unnecessary time in it. It would be terrible to be the first arts department in the 1980s to be closed for the irrelevance of its location. Fortunately our students suffer from vertigo, dry throat, concrete allergies and claustrophobia in their dozens, and that keeps them out there in the real world.

A good MA class tonight, on popular novelists and their readerships. Everyone enjoys confessing to reading trash, and we find that Dick Francis and Catherine Cookson are by no means unknown to the assembled sophisticates. It is good to be talking about straightforward commercial art, and not about the arcane politics of state subsidy.

WEDNESDAY

The real world has invaded the Barbican this morning! On every rooftop there are police, black against the morning sky like images from 1984. On the way in we are all stopped and searched, frisked thoroughly by stony-faced men from the Met. "I am a university teacher," I squeak nonchalantly. "Will you open your bag sir?" On horror! A Catherine Cookson novel and an Agatha Christie. I pray that my interlocutor was not once an English don, but I am lucky, am waved through.

The reason is that Mrs Thatcher is addressing her Conservative Ladies' down in the Barbican Conference Centre. But the security effort seems as blue as blue. All our rooms have been searched, and we titter nervously over the circular telling us that overnight all apartments will be taped up. On the evening television news there is footage of Mr Gorbachev chatting among jostling crowds in the middle of Moscow.

THURSDAY

The real world is slightly less in

evidence this morning, but we are still stopped at all the points where the painted yellow line slides under the police barriers. "Have you any identification sir?" I produce an outdated card to the British Museum Reading Room, bearing a picture of what I suppose I must have looked like at ten years of age. "Did you look like that sir?" says the Met man.

Sir Keith Joseph is coming to Level 12 today, to open a re-formed "Gresham College" with which we are closely associated. All the police protection downstairs is however removed before his arrival, and he slips his welcoming party and is discovered chatting to the receptionist through a forest of recently-imported greenery. I have been looking forward to talking with the Secretary of State, and have prepared a sharp little dialogue for our talk over the smoked salmon. This is how it went:

ME: C. P. Snow said 20 years ago we weren't producing enough scientists and technologists, and that the Soviet Union was well ahead of us in the way it had ordered its educational system. Do you think the Soviet Union has done better, as Snow prophesied?

SIR KEITH: No, but there are other reasons for that.

ME: Of course. But why do you always talk as if technological development is the unit of progress? Do you think then that the US has taken a step backwards by replacing a technologist with an actor as president?

SIR KEITH: Of course not. Because a civilization, and the values which inform its educational system, is not a product of either its technology nor its trading skills. Those things are two manifestations of our civilization.

SIR KEITH: Well, I hadn't thought of it quite like that.

Or rather that conversation, and many like it, might have happened. In fact he looked exhausted, and treated the assembled city folk to some egregious rant about us all needing to play our way. He asked rather despairingly whether anybody in the room earned their living, and finally explained that we could only afford higher education when the country was back in trading profit! I fled. Crowds downstairs flocking in to feed Henry V.

FRIDAY

A pleasant working breakfast this morning with John Elsom, who has some marvelous stories about Max Wall, a performer who has recently moved into trading profit and is suddenly, at this end of his career, overwhelmed with offers of work. A little later comes a charming visitor from the New Zealand Arts Council, who tells me of some extraordinary encounters with officials of our own council. Then a student whose MPhil is going well. The morning moves strangely reassuring, and even the fact that I have eaten two breakfast doughnuts from the nearby deli does nothing to darken a mood which appears to become quite dimish. I notice I am sitting with my fingers tapping about two inches in front of my chin, a sure sign.

It turns to sudden elation when I get a phone call from Australia. I am to go there in September and my callings to deliver a few pithy comments on the organizations supposedly setting this up. He finally turns to one section of the educational establishment over here. Witheringly, splendidly, comes the Australian view. "Those guys just aren't living in the real world!"

So I go off, skipping discreetly down the yellow lines, full of unexpected cheer for the weekend. All that relentless talk about the real world (which the liberal arts do not seem to inhabit) and relevance, and viability, and serving industry and all the rest of the muddled construct which seeks to bruise the nature of education suddenly drifts away, diminished by a lively cold wind. I watch the crowds coming in on the up escalator to listen to the music and hope that this might after all be a part of the real human world. Tonight, unpropitiated, there seems to be tube chaos.

John Pick

The author is Gresham professor of rhetoric, and head of the department of arts policy and management in the City University, London.

Labour pledge on funding

by David Jobbins and John O'Leary

The Labour Party this week made its clearest commitment yet on higher education funding under a future Labour government.

Party spokesmen made it clear that Labour would honour the calls from the University Grants Committee and the National Advisory Body for level funding in the universities and more cash for the public sector.

Opening a Commons debate on the Government's Green Paper, Shadow education secretary Mr. Giles Radice said Labour supported the UGC/NAB advice on access, continuing education, student numbers and resources and would provide the money for them to be met.

But he avoided giving a specific pledge on the extent to which Labour would restore cuts made since 1981.

After a generally low-key debate in which the number of MPs in the Government rarely rose above 20, the motion by 254 votes to 176. The motion had deplored the Government's "short-sighted and defeatist policy on higher education which, because it fails to match the nation's need for a sustained supply of graduates, for increased opportunities for continuing education and for high quality research, is a recipe for national economic, industrial and social decline".

Sir Keith Joseph, Secretary of State for Education and Science, said the Government accepted that an important part of higher education was concerned with learning for its own sake, but much was already directly linked to the economy.

"The Green Paper does not suggest that higher education is merely an instrument for improving economic performance," he said. "The Government would never suggest such a thing."

Insisting that plans for higher education must be seen in the context of a prolonged period of relative economic failure, he added: "I am certainly not putting the blame on higher education but I have to say that there is, however, no evidence whatsoever that recent expansion of higher education in itself secures economic success."

Sir Keith laid down his own criteria for assessing the value of higher education. He said: "I believe that higher education is to be judged by quality, by excellence, by fitness of purpose, by scholarship, by research - basic and otherwise - by learning, by cultivation of the intellect and of maturity. Access has to take into account all of these factors."

"Access for the sake of access is no service to those who are given it, or to the country," he added. "Excellence, fitness of purpose and cost-effectiveness would be the test of institutions if closures did have to be considered," he said. Those which demonstrated all three characteristics

would have nothing to fear. Mr Radice denounced the Green Paper as "a recipe for national economic, industrial and social decline. We reject the Government's barbarous, philistine and defeatist approach."

Ministers wanted to cut back on resources not because of rational arguments but because the Cabinet wanted to cut public spending. The consequences of this "ideological fixation" were likely to be appalling with lost opportunities, departmental and even institutional closures, lost jobs, research in some institutions either downgraded or abolished, and a collapse of morale, he said.

Labour believed there was no case for cutting back in the 1990s as the Green Paper suggested. "If we are to survive as a nation we need a dynamic, innovative, vigorous system of higher education."

No consultative document on education in recent years had received such universal condemnation. "But the truth is the Green Paper is not just a public relations disaster. If implemented it would be a disaster for Britain," Mr Radice added.

Higher education under secretary Mr. Peter Brooke had described the Green Paper as "rolling the wicket for rationalization". Mr Radice said: "I would have thought it was more like digging up the wicket for destruction."

It was grossly inadequate by any standards while the acceptance of the lowest assumption on student numbers was "intellectually dishonest". The Green Paper contained no new ideas, little if any attempt to justify its conclusions by argument or evidence, and was lacking in vision and imagination.

Cataloguing the cuts since 1981 and the UGC's warning of more to come Mr Radice said: "At a time when student numbers are at their peak the universities have been told to do with less and less money."

Mr Clement Freud, the Liberal spokesman on education, said that what was stunning about the Green Paper was the absence of any new proposals. There was nothing to make higher education more effective.

The new "Robbins principle" was actually more restrictive than the original, he claimed, and there was no response to the University Grants Committee's plea for additional lecturers. The Alliance supported the introduction of more shorter courses to give a "short, sharp educational blast".

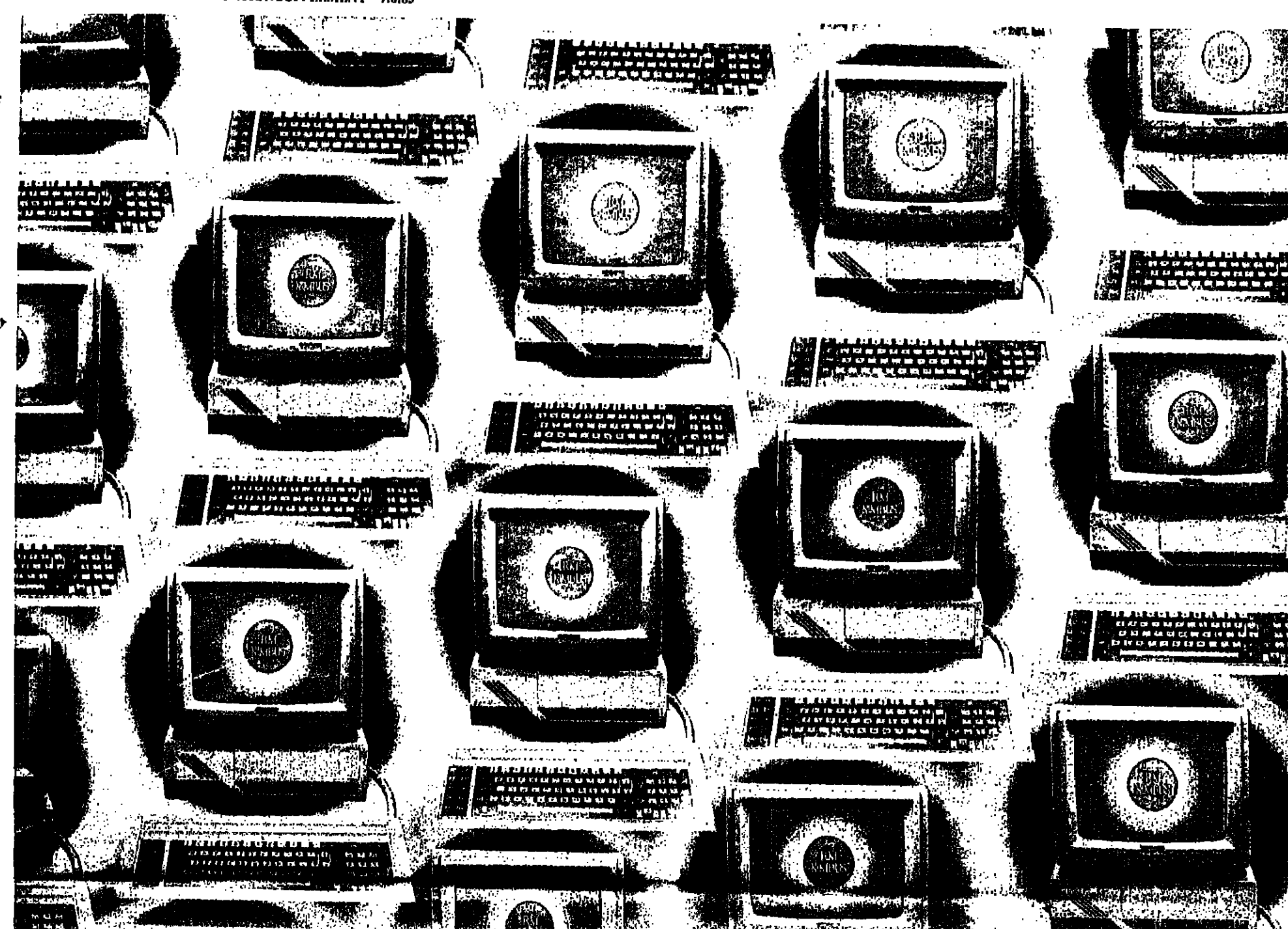
Labour higher education spokesman Mr. Andrew Bennett warned that the Green Paper was a harbinger of doom for higher education and the nation as a whole. It was a complete reversal of Government strategy over the past 100 years.

"Now, suddenly we have a Government not talking about a few short term cuts because of economic difficulty but a long term strategy of contraction," he said.

Conservative backbenchers expressed little or no criticism of the Green



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Lindop report gets lukewarm response

by Karen Gold

A welcome but no great enthusiasm greeted the Lindop committee's report on public sector validation in responses sent to the Department of Education and Science to meet today's deadline.

There were protests at the short six-week period allowed by the DES for consultation. Several institutions and the Association of County Councils have not had time to meet the deadline.

The groups pressing hardest for greater flexibility in validation, in particular the polytechnic directors, are the most pleased by the committee's recommendation that some institutions should become self-validating and that others should adopt an accreditation or joint course validation model.

The Committee of Directors of Polytechnics' draft response endorsed the committee's findings "that the time has come for radical changes in validation arrangements". The CDP particularly welcomed the idea that some institutions could become self-validating, and that institutions should be ultimately responsible through their own teaching, research and scholarship for their own standards.

The CDP also agreed with Lindop's proposals to make the external examiner system more stringent and to have an independent advisory body deciding which institutions should become self-validating.

The criteria Lindop proposed for selecting those institutions, including the level of academic staff and courses, the quality of staff and students, the internal review effectiveness and cohesiveness of the institution, and external confidence in it were realistic and applicable, the response says. "In so far as universities already meet criteria for self-validation the CDP considers that there is no polytechnic or associated Scottish institutions which does not satisfy these criteria."

Individual polytechnic responses press the point further. Plymouth calls for the speedy setting-up of the Secretary of State's advisory body to designate self-validating institutions. Leicester Polytechnic's academic board has stated it wants to be self-validating.

Members of the Standing Conference of Principals and Directors in Colleges and Institutes of Higher Education also generally welcome the report. Those in colleges validated by universities say they do not want regional consortia of validating universities, as the report proposes, but a central advisory body.

The universities' responses are lukewarm. The Council of Validating Universities, while generally supportive, disagrees with some of the external examiner recommendations and calls

on Lindop to provide evidence of the double and sometimes inadequate standards the committee claims to have found in university validated colleges.

The Committee of Vice Chancellors and Principals makes the same point. The CVCP adds it will consider developing a central role in validation; universities are already taking account of desires by colleges to adapt and develop arrangements, it says.

The main dissenting voice comes from the students; the National Union of Students' response to the report is highly critical. The NUS expresses disappointment at "the report's failure to adequately address itself to its own initial question to interested parties, namely how degree courses can best be assessed."

The NUS had argued that a national body was needed to validate all higher education, the response says. Lindop, despite criticizing the standards of some university validation, had not looked at that. Its proposals would also weaken student representation by making institutional and course reviews by the Council for National Academic Awards no longer compulsory, and threatens access.

External safeguards were needed for institutions, while giving some different forms of validation from others would create a hierarchy reliant on "reputation". The idea of autonomy in validation was indefensible, the NUS says; it would lead to institutions being cut off from national contact which external examiners would not replace.

The idea that external examiners might "possibly" consult students, as suggested in the Lindop report, struck the NUS as "extraordinary". The National Association of Teachers in Further and Higher Education also rejects the idea that the marker of a mature institution should be self-validation.

Institutions had obviously acquired considerable validation expertise and the system should be less bureaucratic, the NAFHE response says. But there should be other external bodies involved with public sector institutions which already came under external scrutiny from HM Inspectorate if only to defend them.

The Association of Metropolitan Authorities also points out that the public sector has all kinds of external scrutiny while the universities do not, and the Lindop committee had not explored the logic of this. The committee had assumed that the self-governing community of scholars represented the standard to which everyone should aspire.

The proposals for complete or greater freedom for some institutions would be perceived externally as a league of super-colleges.



Bath University's hot air balloon team (centre) takes off in front of the city's Georgian Royal Crescent in a weekend festival event.

V-cs release PhD appeals code

by Peter Aspdin

Vice chancellors have published their code of practice on appeals procedures at postgraduate research degree level.

As expected, it allows appeals against the academic judgement of examiners on grounds of prejudice, bias or inadequate assessment.

The code has been prepared by the committee on academic standards, chaired by Professor Philip Reynolds, the vice chancellor of Lancaster University. The committee's report stresses that such appeals will only apply at research degree level, not at undergraduate or taught master's degree level.

The report says particular account was taken of the nature of the relationship between postgraduate research students and their examiners.

"The PhD candidate is being examined by those who will be their professional peers, and by the time of completion of their research may well

have a uniquely expert understanding of the subject of their thesis," it says.

The committee's new recommendations allow for an appeal to be made against a decision not to award a postgraduate research degree if:

- there were procedural irregularities in the conduct of the examination;
- circumstances exist affecting the student's performance of which the examiners were not aware;
- there is evidence of prejudice or bias or inadequate assessment on the part of one or more of the examiners.

It is the last point which has proved most controversial in discussion among vice chancellors, some of whom fear a slippery slope leading to the questioning of all academic judgements. But the report makes plain that degrees assessed on the basis of original research are a special case.

Appeals or complaints should be submitted in writing by the student to the vice chancellor or other nominated officer, who might nevertheless decide

that the case was "frivolous" and dismiss the appeal.

If accepted, students would have a right to present their case in person and be accompanied by a member of the university of their choice. In most cases, the body considering the appeal might reject it (in which case the decision is final), ask the examiners to reconsider their decision or allow the student to revise the thesis and resubmit it.

But if the appeal is on the grounds of prejudice, bias or inadequate assessment, the new procedures allow for the appointment of new examiners, who should be given no information about the previous examination. They should then submit independent reports on the thesis before examining the candidate orally.

The new examiners should finally send their report to the university senate, which will also consider the original examiners' report.

Lecturer cleared of expenses fiddle

by Adriana Caudrey

A senior lecturer in mining engineering at University College, Cardiff, has been cleared of charges relating to alleged expenses fraud.

Dr Alan Keith Isaac, a lecturer in the department of mineral exploitation since 1968, and an international authority on mining support systems, was acquitted by a jury at Cardiff Crown Court this week of eight counts of false accounting, totalling £187,444.

The following day, his 51st birthday, Dr Isaac told THE TIMES: "The outcome of the trial is an enormous relief. I couldn't have coped over the last 18 months without the support of my family and colleagues in the department, particularly my student research group, who were unfailingly loyal, despite hearing rumours about me."

"My regard for the college is now deeper than ever - it is a place for which I have great affection. The college has continued to encourage me in my work, especially in my research."

According to Dr Alfred Moritz, the college registrar and vice principal, the allegations arose after an apparent discrepancy in an expenses claim submitted by Dr Isaac, which was brought to the attention of the college authorities.

The college council investigated the matter and then handed it over to the

South Wales Police, who conducted their own inquiry and decided to prosecute Dr Isaac.

Dr Moritz said: "Dr Isaac continued as a normal member of the staff and he will continue to do so. The prosecution was nothing to do with the college. We have to check expenses claims otherwise the auditors could say that we were wasting public money. But the inquiries and the prosecution were carried out by the police."

Dr Isaac said that he did not believe that the trial would have undermined his academic standing: "I can't see any reason why it should hamper my research," he said. "If anything it has stimulated my appetite for my work."

Hampson, his colleague on the Conservative benches. Hampson asked Joseph whether he knew of any other "advanced Western country that is not increasing resources in higher education".

Joseph replied that "other western European countries became much more prosperous [than Britain] until the turning of the tide during the past six years" (my emphasis).

He plainly believes that things have got better in Britain in the past six years; that his economic theories which were designed to accelerate growth, employment and prosperity but which have produced precisely the impoverishment and lack of resources on which he excuses the barbarity of his Green Paper, have somehow been a success; that contrary to all the evidence, we have not in the last six years swapped absolute decline for the relative decline of the previous 40. I have sometimes, during these awful six years, tried to comfort myself that maybe behind all this suffering there has been some grand, and benign, design; maybe they were mistaken, but perhaps in their own way this lot did care. No more. This really is a mad, bad government, practising evil. It has to go.

Jack Straw

The author is Labour MP for Blackburn.

'Earn as you learn' ruling on grants

by David Jobbins

Students are to be freed to earn whatever they can during term time without suffering deductions from their maintenance grant.

Regulations governing mandatory awards for the 1985/86 academic year remove the ceiling of £400 a year on earned income before the grant is affected - although the restriction on unearned income will remain.

But in a separate move their entitlement to receive housing and supplementary benefit is threatened under the Government's proposals for the social security system published this week.

The Department of Education and Science confirmed this week the detailed grants proposals for 1985/86. Main rates are to rise by 3 per cent to £2,165 for students studying in London, £1,830 elsewhere, and £1,480 for students studying from home.

Postgraduate grants will be £3,265, £2,665, and £1,960 respectively. The announcement, which came too

late to avert the threat of delays in cheques reaching students for the beginning of the new year, confirmed steep rises in parental contributions for middle and upper income bands, and the abolition of the minimum award, payable to all students irrespective of parental income and currently £205.

One concession in the proposals is directed towards students with refugee status whose parents have remained in their country of origin. In future they will be regarded as independent of their parents for the purposes of calculating a grant. Previously, the tiny number involved, who have experienced difficulties in attesting to their parents' income for fear of reprisals in their home countries, were entitled only to the minimum award.

But the major change is the removal of the restriction on term-time earnings, currently £400 before the grant is affected.

It is in line with the enjoiner of Sir Keith Joseph, Secretary of State for Education and Science, that students

Parental contribution scales		
Residual income £	1985/86 contribution	(1984/85)
8100	20	(91)
9000	148	(220)
10300	334	(420)
11000	474	(536)
12000	647	(703)
13000	874	(870)
14000	1074	(1035)
15000	1274	(1203)
16000	1524	(1370)
17000	1774	(1538)
18000	2024	(1703)
19000	2274	(1870)
20000	2524	(2038)

Below £10300 rate is £1 in £7;
£10300 to £15000 £1 in £5; above
£15000 £1 in £4.

should "stint" while at college to supplement their declining grant.

A DES spokesman said: "The general philosophy is towards self-help

and encouraging people to work their way through college."

The announcement was seized on by the National Union of Students as an admission by the DES that the grant was no longer meeting its original objectives. But it was anxious that students might be encouraged to concentrate on earning income during term time at the expense of their studies.

The social security review makes clear the Government's view that students should not make use of the social security system while receiving grants.

"The Government believe it right in principle to return to the situation which existed before the introduction of supplementary benefit in 1966 with students being helped through the grants system, by their families and by their own earnings in vacation," it says.

But it says that the way to achieve this will emerge from consultations following publication of the Green Paper on student financial support.

Ulster equality campaign

A radical overhaul of the student financial support system which would abolish the means test and pay all students over £6,130 a week has been urged by Education Alliance - Northern Ireland, a new umbrella group of trade unionists, students, community workers and teachers committed to equal educational opportunities.

In a policy document they argue that the support system has ceased to be relevant in the current social picture, since it depends on vacation work which no longer exists. With parental contributions therefore now essential, the lower socio-economic groups are being deterred from entering higher education.

Thus, the Alliance states, the whole purpose of student awards is being violated since their aim was "to enable, to encourage eligible persons to take advantage of educational facilities".

The solution it advances is an immediate 14 per cent rise in the grant bringing the maximum to £1,455 for students living at home and £1,910 for others. It also suggests that some concession be made for the higher cost of living in Northern Ireland.

The Alliance also wants an element of discretion introduced into the Educational Awards regulations which would allow the boards to pay the full award to one-parent families and to students estranged from their parents.

The document deplores the anomaly that pays nothing to students in non-advanced further education but gives those in youth training programmes £26.80 a week, when both often sit in the same classroom, studying the same course. A term time allowance for non-advanced students over 16 would ensure parity of treatment, the document states.

It also advocates that unemployed people studying part time should be reimbursed for up to £50 a term for outgoings on books and travel.



Excellent work

The vice chancellor of Surrey University, Dr Anthony Kelly, has been awarded the above medal of excellence in composite materials by Delaware University in the United States. The university's centre for composite materials awards the medal each year to recognize outstanding achievement in the field.

Differential rates proposed for new YTS

by Patricia Santinelli

Young people who enter the proposed two-year Youth Training Scheme will receive differential weekly allowances and minimum off-the-job training according to plans prepared by the Manpower Services Commission.

In a paper outlining a possible framework for the scheme, which has been circulated to all the area manpower boards, the MSC says there would be a basic rate for the first year and a higher rate for the second. The current one-year rate is £26.25 and the Government has refused to raise it to £30.

In addition the paper says that in the case of each rate of allowance credit would be given for relevant achievement and qualifications gained prior to entry. Managing agents will be able to raise the allowances to their own chosen level provided they do not expect to receive additional payments from the MSC.

The period of off-the-job training is likely to be 20 to 26 weeks during the whole two years. If set at 20 weeks - the paper makes it clear nothing has been firmly decided - it would be lower than the much criticized current 13 weeks per year.

The paper makes clear that some features of its model proposal could not be introduced by April 1986, and that much will depend on the work proceeding in two other groups, such as the one on vocational qualifications, which are expected to make influential contributions to a two-year scheme.

As far as the funding of managing agents is concerned the MSC proposes the introduction of a basic monthly grant set at £150 to £70 which would cover the costs of training. But there will be some flexibility for the grant to be phased in in a different way.

On top of this the commission says that to ensure that the scheme meets

the training requirements of young people with special needs and to guarantee sufficient places for all eligible young people, it will pay an "additional" grant based on training needs and/or locality. The managing agent fee would be paid at the start of each year.

However, agents will need to make their own arrangements for contributions towards the costs of their programmes from sources other than the MSC. They are forbidden to seek contributions from young people or their parents.

The MSC confirms that 16-year-olds will be eligible for two years on the scheme and 17-year-olds only one year. But young people would be given a training agreement which will not only clarify their status and underline their training but also spell out their rights and responsibilities, including the protections to which they are entitled.

AUT

Association of University Teachers

AUT SALARIES BALLOT

AUT COUNCIL AND EXECUTIVE CALLS ON MEMBERS TO VOTE

YES

TO ALL THREE QUESTIONS IN THE BALLOT

AN INDEPENDENT INQUIRY IS THE FAIR WAY TO SETTLE SALARY EROSION. THE AGREED AUT/UAP REPORT ON EROSION SHOULD BE SUBMITTED TO THE DES NOW. OUR APRIL 1985 SETTLEMENT MUST NOT UNDERMINE THE OTHER TEACHER UNIONS' CAMPAIGNS.

Ballot forms will be distributed by local secretaries during the week of 3rd June. They must be returned to the Electoral Reform Society to arrive by 21st June.

PLEASE REMEMBER TO VOTE
THE AUT NEGOTIATORS NEED YOUR SUPPORT

United House, 1 Pembridge Road, London W11 3HJ. Telephone 01-221 4370

(336)

PARTY LINE

Six of the worst under Sir Keith

Chancellor started to force up the tax burden.

For about three weeks after the 1981 budget I assumed that others more experienced or skilful than I might have asked the question. It turned out that none has so I asked it. The answers filled five pages of Hansard, and I have been dining out on them ever since.

As I sat through Keith Joseph's excruciating performance at the Despatch Box a fortnight ago when he published his Green Paper I kept reminding myself of this second golden rule. Surely, I thought, he realizes what he is doing, and has said what all this means; but it gradually dawned on me that he had said nothing about the real implications of his policy, in terms of staff and student cuts, and the closure of institutions. So I, and others on both sides pressed him. The replies were pathetic, humiliating for the ignorance they disclosed, and would have been inhuman had they not been so serious.

Question: "How many places are to

be lost? Sir Keith Joseph: "We do not know. The Government have declared the projections at this early date to give us time, with the UGC and the NAB, to work on such issues."

Question: "Why will not the Secretary of State publish the implications of the Green Paper now?" Sir Keith Joseph: "... We know ... the number implications of the fall in student places. It will be, for variant V, a fall of 74,000. I have promised that by next year we shall try to interpret the implications for the higher - (interrupted) ..."

(All from Hansard for May 21). But you do not need to be a fellow of All Souls, nor do you need a year of consultation, to work out that a cut of 74,000 places involves closing 10 universities the size of Leeds. Southampton will probably escape the Joseph axe, since the city contains two marginal constituencies, and a few staff still vote Tory. It is the universities represented by Labour MPs that need to worry

- Joseph will reckon that he has nothing to lose. Readers may think I jest too much by this observation; that I am still infected by that glib and low cunning that I acquired as a political adviser. But I do not jest. This is the crudest, most partisan government this century. It is savage and - to use Enoch Powell's word about this Green Paper - barbaric.

Joseph gets a relatively easy ride because he looks as though he cares. But behind his favored brow and wracked intellect there is a man who bears a greater responsibility for the sorrowful condition of Britain than any but the prime minister. And like so many political butchers in the past, he has convinced himself that in doing wrong he is doing right; in order to deceive others he has first to deceive himself. (There is deception even in the title of the Green Paper - what kind of "Development" is the closure of 10 universities?) There was no better example of this than in the answer that Joseph gave to Keith

مركز في الأصل



A double jolt to morale

The Green Paper's view on higher education policy smacks of the song: "With a ladder and some glasses I could see to Hackney Marshes if it wasn't for the houses in between". It sets up similar brick walls, blocking foresight, passage and progress. It cuts off opportunity, and hypocritically demands more effort and maintenance of quality while reducing funds. It is a cruel trick to play on the country, and one of which the Secretary of State and the Department of Education and Science should be thoroughly ashamed.

We face an unparalleled rate of technological change. Our country is bitterly divided between haves and have-nots, skilled and unskilled, workers and unemployed. North Sea oil is running out and third world status hovers on the horizon. Yet the Green Paper distances itself from all this; it plans for a cuthack in resources for higher education, a reduction in the number of places, and accepts with apparent equanimity the crisis in research while bewailing our inability to produce more qualified scientists, engineers, technologists and technicians.

Sensible planning falls by the wayside in the face of Sir Keith's prejudice. The Green Paper says that "although reliance on public finance is undoubtably the Government wishes to see it reduced". But where do these private funds come from? The Confederation of British Industry has stated that industry is not able to provide funds other than at the margin. The ex-chairman of the Natural Environment Research Council has warned that Britain "will have to pay dearly in future years for the failure of Government to fund the longer term kinds of research". The Secretary of State harangues the universities for their lack of entrepreneurial initiative, and ignores the transformation that has taken place over the last few years in relations between higher education and industry.

They have rejected University Grants Committee and National Advisory Body demands for level funding, a longer planning horizon, new appointments to maintain vitality, increased resources for science and technology and a more buoyant approach on numbers.

We know that technology is changing fast. We know also that people's ideas and attitudes change much more slowly, and institutions change slower yet. Do we really want a system that can no longer claim to be among world leaders nor that can attract brighter, better students and teachers from other countries as well as our own? Universities are a success story for Britain. Sir Keith needs determined to dampen down these intellectual powerhouses with a wet sheet of utilitarian cost-effectiveness.

If this jolt to morale were not enough we face another bleak prospect in salaries negotiations. The universities remain intransigent at 4 per cent yet elsewhere in the teaching profession offers of 5 per cent have been made with more in the pipeline. In an unprecedented ballot, the AUT is now seeking an affirmation by members in support of the claim for an independent review and to bring additional pressure to obtain a reasonable 1985 increase. An overwhelming vote will be a clear demonstration that university teachers are determined to reject Government parsimony on pay and on the general undermining of the education service.

Diana Warwick

The author is general secretary of the Association of University Teachers.

Big vote for sacking inquiry

by Peter Aspdon

Lecturers at Warwick University have voted by an overwhelming majority for a special inquiry into the sacking of Mr Barry Russell, a theatre studies lecturer, for sexually harassing a female student.

A special assembly, held at the request of more than 70 academics who signed the required petition, called for the inquiry to be chaired by the university's chancellor, Lord Scarman. Its terms of reference will be decided by the senate.

The official voting figures were 127 to 16, but some observers believe the majority was even bigger. "There were well over 200 people in the hall, and I didn't notice many abstentions," said one official from the Association of University Teachers present at the assembly.

Mr Russell said this week that the assembly, the best-attended for more than 10 years, went extraordinarily well. "It was important because it was decided by my peers, who understand what goes on at the ground level of university life," he said.

The sacking of Mr Russell, for making "improper advances" towards one of his students, has already caused a considerable stir both inside and outside the university. Many lecturers at Warwick believe he has been unfairly treated.

On a wider scale, the AUT has noticed an increasing use of "good cause" procedures for the dismissal of lecturers since the University Grants Committee funding for voluntary redundancies in the wake of the 1981 cuts faded away.

Mr Russell said this week that the assembly, the best-attended for more than 10 years, went extraordinarily well. "It was important because it was decided by my peers, who understand what goes on at the ground level of university life," he said.

He said that the council, which made the final decision to dismiss him on "good cause" grounds, consisted largely of lay members who had to rely on advice and information received from officers.

The inquiry into the case will not have the power to overturn the council's decision, but can make a recommendation which the university would find embarrassing to ignore, particularly if Lord Scarman agrees to lead it.

"Many people are impressed by Lord Scarman's commitment to human rights, and he has the sufficient stature to make the university heed his recommendations," said Mr Russell.

"All I want is to be reinstated and continue my career."

The university senate is due to meet in two weeks' time to discuss the composition and powers of the inquiry.

Teacher training warning

by Patricia Santinelli

Heads of university departments of education have warned the Government's accreditation body for teacher education that the rigid imposition of the recent school experience criteria without resources has threatening implications for staff and institutions.

The University Council for the Education of Teachers says in a discussion paper sent to the Council for the Accreditation of Teacher Education that no mention has been made of additional staffing allocations.

Yet this would be necessary to compensate for the extra demands on teachers' and lecturers' time that would result from the imposition of a universal 30-day rule for school experience.

"It must therefore be assumed that as in the case of the 36-week PGCE, training institutions will be expected to cope as best they can by eking out the resources they already have. In our view this can only result in two alternatives," UCET says.

Some institutions might have to reduce their intake and related activities to enable staff to spend approximately one sixth of their teaching time in schools. This could impoverish the quality of course provision for student teachers, the council says.

Alternatively institutions might separate teacher training from the rest of their provision, in effect giving teacher trainers a different contract of service from the one enjoyed by their colleagues undertaking other activities.

"The consequence would be similar to that in the previous case but with the additional likelihood of a flight from training of the more lively and motivated members of staff," the council says. "The effect is, according to supporters of the move, to delay seriously the process of making the changes designed to avoid conflict with the courts and the possibility of outside interference in the union's affairs."

The council adds that the rigid imposition of the criteria will lead to a variety of organizational problems for schools and training institutions which would call for a significant investment of time and energy.

It points out that alternative modes of acquiring classroom experience have the advantage of offering more obvious career benefits to staff and are therefore more likely to maintain morale than arrangements which are both externally imposed and irrelevant to the task in hand.

Among alternatives to substantial involvement in teaching within a single school suggested by the council were achieving a wider range of experience of classroom practice.

"In the light of these considerations we hope that CATE will have a different reading of Annexure Para 4 from that attributed to Her Majesty's Inspectorate. Teacher training cannot and should not be reduced to a simple unitary pursuit. To say this of course is to assume that CATE is concerned to maintain quality of provision rather than impose a stultifying uniformity on the teacher training process."

Natthe's best laid plans hit a snag

by David Jobbins

A carefully constructed strategy drawn up by leaders of the college lecturers' union to avoid a confrontation with the courts over the 1984 Trade Union Act has been thrown into confusion.

In an overlooked but potentially dramatic development during a secret session at last month's annual conference of the National Association of Teachers in Further and Higher Education, the executive was stripped of the power to call a special rules revision conference.

Union leaders had hoped to schedule the conference for November or early December, shortly after the October 1 deadline for compliance with the section of the Act which most directly affects Natthe - the election of its decision-making body.

But the trigger mechanism for a special conference has now been handed to the union's national council - or the union's cumbersome "regulation" procedure.

The effect is, according to supporters of the move, to delay seriously the process of making the changes designed to avoid conflict with the courts and the possibility of outside interference in the union's affairs.

The executive is to consider how to rescue the situation when it next meets, but it is clear that if it is to adhere to its expressed intention to involve the membership fully in the process, it may have difficulty in meeting its earlier timetable.

Opponents of the view that the conference should be held as soon as practicable after the October deadline hailed the decision as a victory. They believe that a conference should be called only if it becomes necessary.

To stick to the original timetable, it would be necessary for the next national council, on June 29, to call for the conference. But regions meet next week, and are unlikely to have time to reach a considered view, while the executive has yet to agree on the changes.

The way for the executive to regain control is to requisition the conference - under the package finally agreed in Plymouth this would involve a demand from six regions or 10 per cent of the membership before it could be held. Before it could follow this course, the executive would have to decide on the precise rule changes it wants.

Co-ed college well on way

Preparations are in the final stage for the amalgamation of Belfast's two single sex Catholic teacher training colleges, St Mary's and St Joseph's into a co-ed institution on a split campus, with the main buildings a few miles apart.

The amalgamation, first recommended in the Chilver report in 1980 to enable scarce resources to be more efficiently used, was planned for Easter 1983, but legal complications in forming a new trust protracted the outcome so it will not now take place until September.

The new St Mary's College will be non-residential and will be about the same size as the state-owned Stranmillis College, with 600 men and women students - less than half the combined population of both colleges 10 years ago. It will cater for a third of the

province's total intake to teacher education and serve the needs of the Catholic school system.

It will be governed by a totally new authority, comprising Canon Michael Dallat, the president, and 20 trustees of the Department of Education, Queen's University and the trustees - some of whom have already served on the former college boards.

The combined college could be the first stage in a more sweeping Chilver recommendation - where both Stranmillis and the voluntary college were advised to join with Queen's on a single site, to form a Belfast Centre for Teacher Education. "A further move is not out of the question," said Canon Dallat. "The trustees would have to take such a decision. But the first thing we have to do is amalgamate."

Fight for forgotten museums

by Olga Wojtas
Scottish Correspondent

A group of academics has warned of the urgent need to save Scotland's forgotten museum collections.

More than a dozen curators of Scottish university museums met this week for the first time at a specially convened meeting of the Scottish Museums Council chaired by Professor Frank Willett, director of Glasgow University's Hunterian museum and art gallery, and the university museums' representative on the council's board.

Professor Willett said the first and most vital task was to carry out a survey of university collections, since universities were often unaware not only of their own institutions' museums but of their own.

"We must draw the attention of principals, the courts and the senates to these collections which are part of our national heritage," he said. He had discovered more than 40 museums in Scotland's eight universities, but none were housed within departments and "not terribly visible".

Professor Willett is now to produce a document for the working party on Scottish museums, part of the UK Museums and Galleries Commission which will report to the Government in October.

University museums covering for example art, archaeology, pathology, botany and the history of science were public property in so far as the universities were principally funded by central government, but not many were freely open to the public, said Professor Willett.

Glasgow was unusual in having full-time staff to run the Hunterian, he said. Many collections were administered either by technical staff or by academic staff on top of their teaching. And because there was no central organization to coordinate the collections, some were undoubtedly in danger of being completely destroyed.

Glasgow itself used to own four paintings by the artist George Stubbs, but a former professor of zoology had had one burnt because he felt it was not an accurate representation of an animal. Materials which became obsolete, particularly in science, might be disposed of without adequate investigation, Professor Willett said.

"Before discarding things, there needs to be some filtering system to make sure this is not regretted later." One of the many pressing problems was adequate space for museums, and also the need for proper care of the exhibits.

"We simply don't know what the state of many collections is, and those we do know require an enormous amount of conservation," he said. In some cases collections were suffering from damp and mould. Art collections needed to be mounted to be properly exhibited but the vast majority of Glasgow's 18,000 prints were simply kept in envelopes.

A spiritual crossing to the other side

by William Morris

Positive scepticism will be the order of the day when Dr Robert Morris takes up the chair of parapsychology at Edinburgh University in January. An openness of mind, a willingness to take claims seriously, and a keen eye for trickery and self-deception are the qualities he aims to bring to the new post.

At 42, Dr Morris is no stranger to parapsychology. He claims to have been fascinated by the subject since the age of 11 when his parents encouraged him to take an interest, and his academic career has revolved around it since he took his doctorate in animal social behaviour at Duke University.

He subsequently taught parapsychology at the University of Southern California in Santa Barbara, and went on to combine this with other areas of psychology at the university's Irvine campus before taking up his present post at Syracuse University, New York.



Anne Lydlat, a sculptress in glass, plastic and wax, has been appointed Henry Moore fellow in sculpture at the department of art, Birmingham Polytechnic. Ms Lydlat, a recent prize-winner in the Northern Young Contemporaries event at the Whitworth art gallery, Manchester, is putting on three exhibitions during her two-year fellowship. The first was launched earlier this week.

Art colleges agree merger

by Karen Gold

London art colleges are burying their differences over the proposed collegiate institute, whose director's post is advertised this week.

But the colleges have not yet agreed an official title for the head of the new institution who will receive a polytechnic director's salary of £30,000 and have responsibility of seven constituent colleges - Camberwell, Central, Chelsea and St Martin's schools of art, and the Fashion, Printing and the Distributive Trades colleges.

The academic steering group for the institute, which has members from each college, recommended the Inner London Education Authority's appointment of a director (possibly to be called a vice chancellor or principal) while the organization of the institute was still being hammered out.

The steering group, according to its interim report to the ILEA, is now favourably disposed towards the institute, some were undoubtedly in danger of being completely destroyed.

The findings of the investigation, conducted by Mr R. G. Jenkins of Avery Hill College, are timely as the Government is increasingly pushing the primary Postgraduate Certificate of Education route. Intakes have been increased by 39 per cent.

It found that students often complained that too much was demanded of them. With such a brief course, the much wider area of the curriculum to be covered and the proportion of time spent working with children, there was

little time available for the development of an independent approach or particular interests.

"I wish tutors would be more specific and practical in their guidance and requirements so that I knew exactly where I stood," was one typical response.

But the report points out that secondary PGCE students, although they also felt the pressure of time, were more inclined to learn for themselves.

Although college staff, schools and students all agreed on the countless training problems created by the brevity of the course, there was not an untold reaction to the notion of an extra year.

The investigation found that college staff favoured an extra year in college; teachers in schools favoured a better

induction year; some students felt that they would develop more quickly through a well structured induction year, and others felt an extra year should be school based and not college based.

On assessment, the report found that staff in most schools complained at the lack of consultation by tutors. Schools felt that they should be given a full explanation if their school assessment of "failure" of a student was not confirmed by the training institution.

Several colleges criticize the size of the proposed academic council, including the College of Distributive Trades which also says the director should have an established reputation in education management and industry in commerce. St Martin's emphasizes that the steering group's report should refer to the threat to fine art in London.

Of 27 academic staff teaching chemistry, 24 have doctorates but none has recent industrial or commercial experience and on average they have not worked in industry or commerce for 20 years, the report says. Their average age is 48 and 11 are over 50. "The increased probability of illness in an ageing staff has already caused staffing shortages due to prolonged sick leave," the report says. "There is a need to investigate methods of introducing 'new blood' into the divisions and provide a planned programme of 'in-service training'."

But the report also says most staff are active research workers, with publications totally 450, and all their research is industrially related, in chemical science attracting £400,000 external funding. Some physics staff have also had recent industrial experience.

Accommodation and laboratories are well kept but equipment is obsolete and science premises are inappropriate for degree level work. Students do practical work in the evenings, when technicians are not always available for support.

Most students attend one day a week, for up to 12 hours. The report praises teaching staff "who deliver well-structured lectures at an appropriate pace, provide good hand-outs and illustrate their lectures with appropriate visual aids". Practical work was equally well organized, the report says.

Student work was of a good standard in all courses inspected, with particularly high standards in practical chemistry. Examination results in chemistry were also good, but in physics and engineering science, more than half the students who began the degree course withdrew or failed.

Aspects of more advanced further education at Hatfield Polytechnic available from the Department of Education and Science, Honey Pot Lane, Middlesex HA7 1AZ.

One day, perhaps, this will come about. In the meantime Dr Morris moves on to Edinburgh, where the spirits are older than those at Syracuse, and possibly more intoxicating for the avid seeker after truth.

Students win senate safeguard

by Peter Aspdon

Students at Westfield College, London, have got the senate to pass a motion urging the university to safeguard the college's academic qualities and unique status in its forthcoming merger with King's College.

It is the first time a student motion has been passed by the college senate, a reflection of the widespread concern among Westfield staff and students about the merger.

The motion, proposed by the student senate member for science and engineering, Mr Martin Davies, stressed that Westfield was now the last surviving residential campus in the university to be based in central London, and urged that the "balanced social and academic life of the college should be maintained and preserved", as it was an "invaluable asset to the nature and reputation of the university".

Students are concerned that the college's character might be sacrificed in the merger with King's. They have always preferred a merger with the Central School of Speech and Drama - a non-university body - or University College.

But a working party reporting back to the university's joint planning committee backed the King's option, following the recent merger of that college with Chelsea and Queen Elizabeth colleges. It believed that this option would best exploit the purpose-built Queen's science block, which has been left empty for the last two years since Westfield science students were moved out.

The students' union president at Westfield, Mr Andy Ravenscroft, said: "It does seem a bit ridiculous to move all those students out, and then fill the building again two years later. But that is just one of the unfavourable aspects of the reorganization of the university."

Call for 'new blood' at poly

Teaching staff on part-time physics and chemistry courses at Hatfield Polytechnic need more in-service training, industrial experience and "new blood", according to an HM Inspectorate report.

Out of 27 academic staff teaching chemistry, 24 have doctorates but none has recent industrial or commercial experience and on average they have not worked in industry or commerce for 20 years, the report says. Their average age is 48 and 11 are over 50. "The increased probability of illness in an ageing staff has already caused staffing shortages due to prolonged sick leave," the report says. "There is a need to investigate methods of introducing 'new blood' into the divisions and provide a planned programme of 'in-service training'."

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overseas news

Swedish cash autonomy plan

from Donald Fields

HELSINKI

The Swedish government should plan for universities for several years at a time, instead of pursuing makeshift policies. This would promote a more effective use of available resources.

These proposals are made by two experts in a report on how universities are managed. Björn Brandt and Karl Johan Johansson, have studied the problem for the last two years under the guidance of Mr Lars Ekholm, a senior official in the ministry of education.

One reform advocated is for universities to have the right to decide how they allocate their resources over any three-year period. Irrespective of the political complexion of the government sworn in after September's general election, progress can be expected on this front.

Showing little dissent the Riksdag (parliament) has allowed the present Social Democratic government to en-

force savings of 44 million kronor (23.9 million) in 1985/86 with the large universities, especially Lund and Uppsala, relatively worse hit than the small universities. Along with other technicalities, this move is seen as paving the way to longer-term budgeting of higher education.

Despite cutbacks, the south-central town of Linköping, already proposed for one university, is to obtain its own university of medicine next year. One thousand students will read a wide range of health-related subjects in a move that contrasts with a general squeeze on medical faculties, including some transfers from one seat of learning to another.

Overall, this spring's crop of 60,000 applications for the 19,500 places available in Swedish universities next autumn, dovetailed neatly with a shift towards technology in teaching and research. In a significant upsurge two students are competing for every one of the 6,000 openings in technical disciplines, marking a move away from

natural sciences.

In the highest distortion of its kind, 9,000 hopefuls are making economics subjects their first choice against an intake of only 2,500. In keeping with government-inspired contractions, those going for teaching, dentistry and public administration are declining rapidly.

Meanwhile, there has been a marked swing to the left in the Stockholm University students union election, defying trends in public opinion at large. For the first time in 1986 a leftwing coalition composed of socialists, communists, ecologists and a protest party called Envoys will rule over the student union instead of a rightwing grouping. Only a quarter of those eligible bothered to vote.

In parts of the provinces interest was even lower. Gothenburg registering a 16 per cent poll that produced conservative gains. A 30 per cent turnout in the coastal town of Umeå was enough to see non-socialists oust a traditionally red executive.

Barbara von Ow on how East and West Germany are reacting to test tube baby research

Eichmann slur on geneticists



Test tube babies: started fierce debates

East Germany, where the first test tube twins were born last October, has cautiously opened a public debate on the social and ethical problems of modern reproduction techniques.

So far the discussions are largely confined to academic forums. The state and party leadership, although expressly supporting biotechnology as a key to modern development, has so far remained conspicuously silent on the issue.

Echoing growing concern within East German society, however, several writers and artists have warned of the possible consequences of biotechnological progress, notably the well-known writer Heiner Kipphardt who has attacked modern genetic scientists as the "Eichmanns of today". These warnings, however, are being brushed aside by a group of "hard line" advocates of modern reproduction techniques, including genetic manipulation.

Generally all experts give approval to *in vitro* fertilization and embryo transfer techniques. These methods were "ethically wholly unobjectionable," according to Professor Hans Bayer, under whom the first test tube babies were born at East Berlin's prestigious Charité Hospital.

However, these methods which would be applicable for some 100-150 women per year, should continue to be confined to a few specialized centres. Bayer noted. Currently artificial insemination techniques are only carried out in East Berlin, Rostock and Leipzig.

In the GDR, the most homological (involving only the two parents) implants heterological (involving sperm cells from a third donor) implants are already being carried through routinely. In contrast to West Germany, heterological insemination was legally included in the 1982 Family Law.

While Professor Bayer expressly ruled out any form of manipulation with embryos, other experts go to much length to play down the ethical problems of embryo experiments. In a speech to the Academy of Sciences in 1983, Professor Helmut Kyank of Rostock University supported the idea of identifying and "selecting genetically damaged offspring" in embryonic form. He also backed the idea of

freezing embryos and declared his support for embryonic experiments in the first two weeks.

More recently, the director of the Rostock gynaecological university clinic, Professor Wilken stated that embryonic experimentation was "ethically unobjectionable" if it helped to gain new scientific knowledge brought to improve current fertilization methods.

Besides this group of medical experts, however, there is a group of hard liners which is pushing the new biotechnologies with almost missionary fervour. This group of "hawks" is led by the virologist Professor Erhard Geissler who categorically discards any ethical doubts about modern genetic technology.

Arguing from what he calls a "humanistic standpoint," Geissler deplores the possibility of genetic manipulation of human beings. Writing in the Communist Party daily *Neues Deutschland* recently, he brushed aside the possible misuse of genetic technology but hinted at a "profoundly human breeding programme" in socialist society.

In another article in the literary monthly *Sinn und Form*, Geissler again said he could "safely rule out any global regional abuse of genetic technology," noting that this would not be in the interest even of the "most aggressive forces of imperialism." Whether this will do much to alleviate the fears of a new generation of Eichmanns, however, remains to be doubted.

Doctors impose restrictions

West German doctors have stepped into the increasingly heated debate over artificial reproduction and taken the unusual step of imposing restrictions on their own methods and research.

Following three days of controversial debate over the ethical and social problems of the revolution in alternative methods of making life, the German doctors' conference passed a resolution laying down guidelines on new fertilization and embryology techniques.

The resolution was based on the findings of a group of experts including doctors, theologians and lawyers, which was commissioned by the Federal Medical Chamber. Although the guidelines will not be legally binding they are to be instituted in the professional medical code before the end of the year.

Since the first West German test tube baby was born in 1982, there have been 131 births induced by artificial insemination. A total of 22 medical centres are now carrying out embryological techniques.

The doctors expressly give first priority to the wellbeing of the child. Although *in vitro* fertilization and embryo transfer are approved in principle, the doctors decided that the use of these methods should be restricted to married couples and to cases where only the natural parents are involved.

They put a ban on fertilization involving third party sperm cell donors which should be permitted only in special cases. The doctors gave a

reason the complex problems involved as well as the possible psychological burden on a child of having a second "genetic" father.

To guarantee the anonymity of the donor as in Britain and France would require a change in the law which currently safeguards a child's right to know the truth about its natural parents.

An unconditional ban was imposed on surrogate motherhood and on commercial agencies.

Much discussion centred on the sensitive area of human embryo research. It was laid down that no "surplus" embryos should be produced in cases of extra-corporal insemination. However, as opposed to Britain, where research on human embryos is allowed until they are 14 days old, West German doctors called for a near-total ban on experimentation on embryos, unless the research is designed to improve the fertilization method itself. However, the guidelines fail to specify such cases in any detail.

Although going beyond some of the regulations in other western nations, the guidelines still failed to satisfy the Social Democratic opposition party. Both research minister Heinz Reissenhuber and justice minister Hans Engelhard have called for a ban on commercial motherhood agencies.

Herr Reissenhuber also announced that a special expert commission set up by his ministry would submit its own recommendations on surrogate motherhood, human embryo research and genetic manipulation in the autumn.

Solidarity attacks 'slavery'

Young Polish graduates face the possibility of compulsory work for the state according to underground Solidarity documents.

The proposed new legislation has been described by the underground social committee for learning as "feudalism at the highest level of socialism" and a means of controlling independently-minded young graduates, since the new laws will be initially applied selectively.

Compulsory employment in an assigned post is a condition of university education in other socialist countries, where it is officially described as "guaranteed employment". There the graduate receives something approaching a living wage by local standards and even in the Soviet Union can seek a more congenial job after three years.

The Solidarity reports, however, suggest that the new Polish graduates will be under the control of the state employment sector for up to 10 years and in their first year could be working like national servicemen simply for pocket money.

According to the leading underground Solidarity journal *Tygodnik Mazowsze* two pieces of legislation are now being drafted. One, emanating from the ministry of labour, wages, and social affairs, would introduce obligatory employment of graduates exempt from military service. This would involve some 22,000 female and 16,000 male graduates a year with the remaining 14,000 male graduates going into the armed forces.

The draft of the law, leaked to underground Solidarity, notes in particular that graduates will be assigned to jobs on the basis of requests from enterprises submitted through labour exchanges. During their compulsory service they might be accommodated in workers' hostels and would receive a very low wage. It is believed that they would be drafted into jobs which ordinary workers were unwilling to undertake, possibly on development sites in remote parts of the country.

The scheme would apply to all graduates not liable to military service and also to final year students who failed their exams or did not hand in

their theses on time. Refusal to perform compulsory work service would render the graduates liable to penalties introduced in the martial law period. This proposal was described by *Tygodnik Mazowsze* as "a year of slavery".

The other new law, which is being drafted by the ministry of science and higher education and the ministry of education, is headed by the Solidarity journal "Ten years of forced labour". This law would oblige anyone who has received any form of higher or vocational secondary education, to work for 10 years in the nationalized sector of the economy or else have to pay back the cost of their course.

Such a law could have a serious effect on the Catholic church's scheme to revitalize private agriculture, to which the Polish government has officially given its reluctant approval. Any scheme to develop private agriculture in Poland must be based on better training of the farmers' children. But under the new law such children would be forced to work for 10 years in the small and unproductive socialized agricultural sector.

Caught by the coat tails

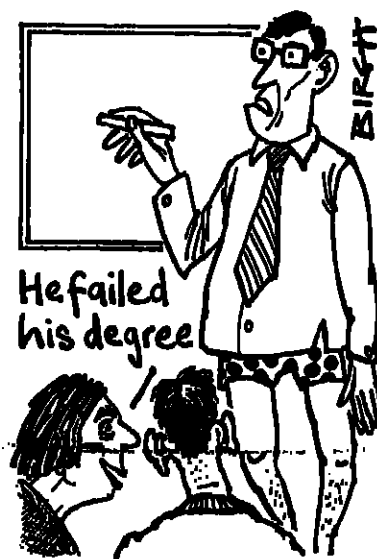
Teachers in Malaysia's universities, colleges and schools were angered recently by a directive on the new dress code which requires that teachers be "distinctively distinguished and classified" according to their status and qualifications by the way the dress for work.

The directive was sent to all educational institutions by the public services department and signed by deputy director-general Ahmad Sarji. He stated that the new dress code required teachers with degrees and other higher qualifications must wear lounge suits, bush-jackets or long trousers with shirt and tie. Those with lower qualifications should only wear long trousers with shirts and no tie. Long sleeves should not be folded and shirts must be tucked in. All casual, sporting and trendy gear is banned during working hours.

For women, the directive said that national costume or appropriate dress could be worn. As for female students, veils (purdahs) are forbidden for practical and security reasons.

Mr Lye Mun Foh, chairman of Penang's National Union of the Teaching Profession said teachers were shocked and angered by the dress code, which was sure to have an adverse psychological effect on both staff and students.

Already, teachers observing the dress code in Penang and Perak are



complaining students are showing markedly less respect for teachers who are required not to wear ties, and psychological barriers between teachers from different dress code categories were emerging.

Mr Lye said that educational institutions were not like government departments and teachers had to engage in a broad variety of activities, including sport, cultural and recreational, for which teachers need to vary their attire. He told teachers that provided the dressed decently "it should be all right" to ignore the dress code.

A senior education ministry official defended the dress code, saying it was simply a measure to restore and maintain reasonable standards of dress.

Foreign exchanges 'restricted'

from William Norris

WASHINGTON

United States immigration regulations are accused of having "a pervasive and negative influence" on academic exchanges, in a position paper prepared by the National Association for Foreign Student Affairs. The paper, entitled *Regulatory roadblocks to international exchange*, calls for sweeping changes in immigration policies.

The association wants all foreign students to be admitted to the United States without specific time constraints, and to be allowed to stay as long as they pursue full-time study or associated training and do not engage in unauthorized employment.

It also claims that students should be free to transfer between institutions and educational programmes without seeking prior approval from the immigration authorities.

It also insists that educational institutions should be allowed to determine for themselves what constitutes a full-time educational programme for foreign students, and that they should be allowed to engage in part-time employment off campus once they have completed one year's study.

The current regulations are not only onerous, but costly. The University of California at Berkeley, which has a foreign student affairs budget of \$275,000, had to spend \$75,000 of it last year on complying with them.

China loosens grip on foreign publications

by Geoffrey Parkins

The Chinese government announced last week that it will open its market further to foreign books, newspapers and other publications.

From now on universities, colleges and individual subscribers will be allowed to order almost any publication, audio or videotape that is required for research, teaching, study and occupational purposes.

The authorities made it quite clear, however, that centre to right-wing publications critical of socialism would continue to be strictly forbidden along with pornographic and other unhealthy literature.

Until now the number of foreign publications entering the country had been severely restricted, either because of strict censorship or a lack of foreign currency available to the China National Publications Import and Export Corporation, which is the country's sole importer of overseas periodicals and newspapers, and which also handles 85 per cent of book imports. But, even when orders were placed, subscribers often had to wait up to two months for newspapers and periodicals and six to eight months for books.

Now the government has guaranteed substantial increases in purchase and improvements in the speed of delivery by allocating HK\$55 million to the corporation in foreign currency, which constitutes nearly a 45 per cent increase on the HK\$38 million made available last year.

Last year the corporation selected, catalogued and imported around 30,000 book titles, mostly in science and technology, and a total of 100,000 copies reached subscribers. But with

the rapidly growing demand for books in English and other foreign languages, law, economics, politics, literature, the arts and social sciences, it has promised to offer greater variety and is aiming to import over 70,000 separate titles this year. It also aims to reduce delivery time to between one and three months.

At least 25 book exhibitions have been planned for this year already and Japanese, Soviet and United States publishers are moving in quickly to increase their shares of the market. A number of American publishers are holding their own exhibitions this summer. The Soviet Union is holding a science and technology fair in July and the Japanese will be giving an exhibition of books on new technology in November. The corporation is sponsoring a number of book exhibitions from Hong Kong and Taiwanese companies.

China also plans to hold its first international book fair in Peking next summer, where over 40,000 overseas titles will be on show.

In the first quarter of this year book sales from western countries have declined, while in the same period Hong Kong and Taiwan have increased their share of the market by around 40 per cent. An official source said the main reason was the higher prices of books from the west and that Taiwan and Hong Kong have concentrated their efforts on translating foreign works which are in high demand.

● The Japanese Matsushita Electric Company has given an electronic language laboratory to the party school of the Central Committee of the Communist Party of China.



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Malaria vaccine hopes rise

An end may be in sight to the scourge of malaria, thanks to a new vaccine being developed in the United States using genetic engineering techniques. A prototype malaria vaccine has been produced which works on mice and rabbits, and which will be ready for testing on humans within a few months. If all goes well, it could be generally available in five years or less.

Conventional vaccines, which contain dead or crippled infectious agents such as bacteria or viruses, have been impossible to produce in the case of malaria because the disease is caused by a single-celled parasite which cannot be grown in the laboratory in sufficient quantities. The new synthetic vaccine contains laboratory-made replicas of portions of protein molecules which exist on the surface of the infectious agent.

These are thought to stimulate the immune system to make antibodies,

which are protein molecules tailored to bind to the foreign protein. The malaria parasite is disabled by the antibodies, and then engulfed and destroyed by white blood cells.

The new vaccine is the product of work at five research centres, but it springs from the work started 20 years ago by Ruth and Victor Nussenzweig at New York University.

One remaining problem is the fact that the antibodies can only act during the few minutes between the time an infected mosquito bites, injecting thousands of the parasites into a person's bloodstream, and the moment they enter the liver to commence the next part of their life-cycle.

However, other approaches are being explored by researchers in Australia and Sweden, aimed at stages of the diseases in which the parasite enters red blood cells and then breaks out.

Cabinet inquiry into state of dilapidated halls of residence

from D. B. Udalgama

COLOMBO

The Sri Lankan cabinet has launched its own inquiry into the state of buildings and premises at the University of Peradeniya.

Mr Bannister, the deputy Minister of Justice and MP for Senkadagala, the constituency where the university is situated, has said that the funds made available for the maintenance of the

halls of residence had been "grossly inadequate", and estimates that about 25 million rupees are needed to make it habitable and safe for student accommodation.

Doors and windows of the halls of residence, bungalows and lecture theatres are decayed; roofs need tiles, and buildings are in need of gutters and drainpipes; halls of residence need washing basins, urinals and water closets. Internal water supply lines are

dilapidated and equipment in most of the kitchens is old, Mr Ranaaraja reports.

Apart from the grossly inadequate funds for maintenance, other causes for the present state of the university, says Mr Ranaaraja, are the absence of competent maintenance staff, and an inadequate supply of materials.

He suggests the appointment of a trained house keeper to each hall.

مكتبة الأصل

Jon Turney reports from the American Association for the Advancement of Science in Los Angeles

Rising stars in the scientific galaxy

President Reagan's strategic defence initiative was the hot topic at this year's meeting of the American Association for the Advancement of Science. The week-long meeting was held in Los Angeles, centre of the film industry, which gave the new American programme its other name - star wars - as well as the largest city in the state which gives a home to the main US weapons laboratories and much of the country's arms industry.

The prospect for the star wars programme were the main interest of the US press. Particularly when the project's chief scientist Dr Gerald Yonas appeared to concede that a ground-based laser weapon would not work on a cloudy day. The predominant mood was hostile to the initiative, dismissed by the incoming AAAS president, *Scientific American* publisher Gerard Piel, as "a lunatic enterprise".

But there is much more to California, with its nine-campus state university boasting 14 Nobel prizewinners, than film stars and anti-missile weapons. And more to the AAAS than any brief list can convey. It is the largest multidisciplinary science and engineering society in the world and the annual meeting attracts several thousand people.

This is not quite enough to pay the bills, but enough to sustain the meeting as an important element of the association's work, along with academic and popular publishing and extensive efforts to influence policymaking. Like its older British namesake, the American Association for the Advancement of Science's title invites the question: towards what? The meeting is its

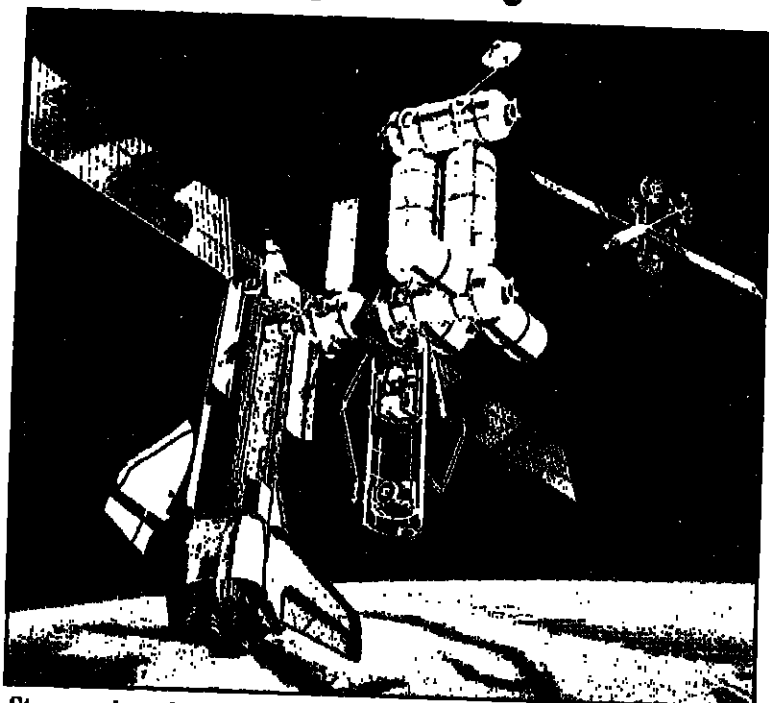
annual attempt at an answer. Although the meeting was held under the apparently meaningless title of "Science and engineering, diversity and convergence", some coherent themes emerged. Sessions characteristically revolved around the effects of science or policies with scientific content on the people: Americans want to know about risks and regulation of hazard, whether of the environmental consequences of biotechnology or health effects of food additives and pesticides.

They want to know if scientists can predict the next earthquake. They want to know who will take responsibility for deciding what to do if the prediction is only 80 per cent certain. This concern with the effects of science and technology shifts readily from global to local, from planet-wide climatic changes to "indoor air pollution".

The concern with the individual also lends the meeting an emphasis on the social, medical and behavioural sciences, and biology, with remarkable little physics and maths. And it produces a greater preoccupation with the role of women, minorities and the disabled in science than in Britain.

A group of disabled scientists described how they had overcome the obstacles in the path to their chosen careers. As with Dr June Rooks who recounted how she had won through against a double disadvantage as a woman and a polio victim to become a working physicist.

Defence science kept creeping back into the discussion. Not least in repeated calls for the US Department of Defense to ease its pressure to reduce



Star wars loom large: an artist's concept of a space station

publication of research in non-classified subjects. As the outgoing AAAS president, David A. Hamburg of the Carnegie Corporation, said, it was vital to keep repeating the message that open communication was needed to advance research.

However, Mr Sumner Benson of the Defense Department indicated the government would continue to use

export control regulations to bar presentation of sensitive papers, as had happened the previous week at a meeting on lasers in Maryland. As he put it, we free science was important for the country. "US military strategy is crucial to development of free science in the world as a whole. It was a signal that defence and security will loom large again next year."

Global study is aired

American scientists are taking the lead in plans for a 10-year global study of earth, air and seas, to start in 1990. Dr John A. Eddy of the US National Center for Atmospheric Research told the meeting the proposed International Geosphere Biosphere Program needed a new name, and he suggested it be called the Strategic Earth Initiative after President Reagan's strategic defence initiative.

Dr Eddy is chairman of a US National Research Council Committee set up last year to frame a realistic plan for the programme after early proposals from the earth science community, and he outlined the committee's draft report. The idea is to unite scientists round the world in intensive study of interactions between living and non-living systems.

The initiative would lead to 10 years of cross-disciplinary research on oceans, ice-caps, fresh water, soils, forests, farmland and deserts. It would hope to shed light on the effects of human activities on these systems, including changes in atmospheric carbon dioxide and climate, enlargement of deserts and felling of forests and effects of intensive agriculture.

Dr Eddy said such an effort was now possible with the advent of new techniques of observation from space and more efficient data processing and communications.

Although the proposal is often likened to the international geophysical year, he said the new initiative was directed to more pressing and difficult problems. "There is a practical urgency to answer mounting problems of the global environment; a gnawing sense that the ever-growing numbers and activities of man threaten the quality of life, if not the future habitability of the planet," he said.

The National Research Council committee has recommended focus on five areas: natural records of environmental change in trees, ice and rocks; studies of the physical environment; work on global ecosystems; study of chemical circulation between living and non-living systems; and study of the movement of water in the same systems.

The programme is also under consideration by the International Council of Scientific Unions. A seven-nation study group will put proposals to the ICUS this October and Dr Eddy suggested the union would be the best organization to run the programme if it goes ahead.

The ICUS committee includes the US, China, France, Hungary and India. Britain has not yet shown much enthusiasm for the proposal and there is mainly an attempt by the earth science community to create a giant programme to attract funds. But Dr Eddy said discussion of the programme was now beginning to assume a solid consensus on how it should proceed.

Getting the message across about cross-fertilization

The real excitement in science is in areas that traditionally organized universities cannot cope with, according to the physicist Murray Gell-Mann of the California Institute of Technology. In his keynote address, he called for new research institutions built around the multidisciplinary study which is now the hallmark of "much of the most important new work in science".

Professor Gell-Mann saw unification of disciplines on every hand: particle physics was merging with cosmology; the life sciences were knitted together by the new tools of molecular biology; new ideas in systems dynamics linked studies as disparate as fluid turbulence, population growth and schizophrenia; computer science, psychology, linguistics and neurobiology were coming together under the umbrella of cognitive science; in fields as diverse as archaeology and policy studies there was "a rapidly increasing interdependence of subjects long considered distinct".

He stressed the rich cross-fertilization of ideas in studies of complex systems - organisms, brains, societies or ecosystems. All were concerned with problems of stability and change, randomness and organization, adaptation, selection and strategy.

In the face of these strong intellectual trends, the existing arrangement of university departments, professional societies, journals and grant reviews were reluctant to make.

Other institutions would also have to change, he argued, to ensure quality control in research combining several disciplines. But the risk of promoting some academics who could only pass muster by talking physics to biologists and economics to physicists was worth the need to meet the need to unite different ways of approaching the world.

The new studies needed team work, synthetic minds working alongside specialists, and probably longer post-doctoral study. Above all, they needed people who had got the message: "It is all right to learn how to make connections between subjects."

The typical response of a university to a new interdisciplinary subject was to set up a new "centre" in a Victorian house, with no long-term funding and no influence on the overall academic policy, he said.

To avoid this problem, he proposed a new kind of institution, designed to combine the advantages of a university and a research institute. Its overall interest would be in studies of how complex systems arise from simple elements, and there would be post-graduate teaching but none at undergraduate level. And there would be shifting research groups instead of departments, and interdisciplinary appointments of the kind universities were reluctant to make.

Other institutions would also have to change, he argued, to ensure quality control in research combining several disciplines. But the risk of promoting some academics who could only pass muster by talking physics to biologists and economics to physicists was worth the need to meet the need to unite different ways of approaching the world.

Where computers cannot compete

Professor Hubert Dreyfus, one of the most persistent critics of the concepts of artificial intelligence researchers, is preparing another assault on the field.

Professor Dreyfus, who holds a chair in philosophy at the University of California at Berkeley, has joined forces with his brother, a professor of industrial engineering on the same campus, to study differences between human skills and the abilities of computer programs like the so-called "expert" systems.

The two argue that computer programs based on facts, beliefs and inference rules supposedly used by human experts never perform at the same level as possessors of intuitive skills in recognizing problems and their solutions.

And Professor Stuart Dreyfus told an AAAS session on the impact of computers on society that there was a danger computers would lead us to think of ourselves as rational animals, and neglect our intuitive abilities.

He went on to describe a series of as yet unpublished experiments on human skill. They included pitting a chess master against a slightly weaker player, while making the stronger contestant do continuous mathematical calculations. The master still won a series of games even though his analytical faculties were occupied with the maths problems. The Dreyfus brothers say this is because high level skills like chess rely on intuitive faculties.

They make the same claim for other skills, from driving a car to learning a second language - expertise is based not on rules but on intuition. And according to Stuart Dreyfus, "intuition seems to be an innate human ability. It is not the goal of artificial intelligence, and is not captured to any significant extent by computers."

The brothers argue intuition is a higher level faculty, and the exaltation of the reasoning powers of computers devalues what is special about human thought. They call for a wider recognition of "the unique ways in which human beings transcend any reasoning device."

The implication that computers have a bad effect on our self-image was challenged by psychologist Professor Sherry Turkle of the Massachusetts Institute of Technology. She stressed it was possible to view computers as expressive devices, rather than machines having an "impact" on people.

She was less interested in the artificial intelligence question whether computers ever thought like people, and more concerned with people's fears that in some sense we have always thought like machines.

She also took issue with Professor Joseph Weizenbaum of MIT, who described the introduction of computers into schools as an experiment on a whole generation of children. This was no more an experiment on children than giving them pencils or typewriters, said Professor Turkle.

A judicious mixture of carrot and stick

Peter Aspden talks to Bhikhu Parekh, former vice chancellor of Baroda University in India



Professor Bhikhu Parekh: cautious optimism

charged political context."

Interestingly, Professor Parekh blames the rapid expansion of universities in India for the chaotic atmosphere. "Suddenly, universities began to accept people they wouldn't normally touch with a large pole, and of course those people were desperate to get in."

"A degree means everything in Indian society; without one, you cannot find a job, a wife, or anything. In an economy of scarce resources, a degree gives you immediate social standing. But once you get in, you don't want to learn anything, you just want to end up with the degree. It led to a highly undisciplined atmosphere."

The second major problem facing Professor Parekh was that of the "city bosses", as he calls them, powerful elites of professionals who, in the late 1960s and early 1970s began to wrest control of the university system from academics. Vice chancellors, in his words, became "puppets".

The running of universities became corrupt and random; the year before his arrival, teaching at Baroda was suspended for five months, yet the entire year of students was promoted. The political cost of a "wasted" year, depressed teaching staff stooped to unscrupulous methods, such as earning substantial fees from private tuition, without which a student would suddenly find himself struggling in the course of normal university work.

Lecturers frequently failed to turn up to teach students, which in turn fuelled their grievances. The task facing Professor Parekh looked awesome.

He describes his actions to try to restore order during his three-year term as a judicious mixture of carrot and stick. A clear-cut procedure was established and made known for the treatment of students' complaints, which banned more than four students from ever entering the vice chancellor's office.

Any hint of abuse, intolerance or lack of discipline was also banned, and a precedent for calling in the police in tense situations was established. The new university regime made it explicit: terrorism sometimes had to be dealt with by counter-terrorism.

The extraordinary power of the student union president was another tradition which needed to be dismantled. "The union was extremely powerful, it was a political force which could quite comfortably mobilize the whole university's 22,000 students," said Professor Parekh. A test case soon arose, when the president abused and insulted a lecturer.

"We instantly dismissed him from the university. By showing we were

prepared to deal in a strong way with the problem, the majority of the student population, who were very well-meaning, realized what was going on and did not protest against the decision," he said.

Which is more than can be said for a vice president of the union, who stationed himself outside Professor Parekh's home and threatened self-immolation. He was arrested while waving a bottle of kerosene and a matchbox in preparation for the elaborate ritual - only for police to find the bottle full of water and the matchbox empty.

In concert with the tough measures came the establishment of a recognized student grievance procedure, which included staff/student committees, faculty representatives and detailed investigations of claims that he syllabus was not being properly covered. There was also an attack on the private tuition system, which clearly discriminated against the poor.

The city bosses, because of their essential corruptibility, were somewhat easily played off against each other and their place was taken by a small committee of senior academics dedicated to the university's work and

record. The bosses reacted by hitting and inciting students into violence, but they found little joy in the new atmosphere of cooperation.

"I think what we did was to give students new hope, made their courses more exciting and stimulated research among young, bright lecturers. Fresh air began to circulate through all the corridors," said Professor Parekh. He looks back at his three-year spell with a reasonable degree of satisfaction, and believes he achieved much by making the running of the university at the same time more responsive and more decisive, an apparent contradiction which British institutions are finding increasingly difficult to reconcile in the post-Jarratt climate.

His frustrations, however, remained intense. The most consistent and annoying obstacle was the degree of political influence and pressure which is brought to bear on university governance. The judiciary too, while used as a vital instrument for rectifying injustices nationwide, was a constant niggle.

"At a low level, courts of law tend to be incompetent, corrupt or indifferent - and anyone who had a grievance about an aspect of governance could obtain an injunction. I spent weeks sorting out 32 new appointments, only for all of them to be frozen indefinitely because of a single complaint from a disgruntled candidate."

Apart from the more localized troubles, the broader traumas of present-day Indian politics naturally had a major effect on Professor Parekh's policies. One of his most pressing dilemmas was trying to eradicate the divisiveness of the caste system, and he ran a quota system for the admission of "Untouchables" which generated much opposition on a bad feeling. But he remains unabashed in his enthusiasm for what universities can achieve for the poor. All students, for example, must go on courses which involve working in local villages during vacations. In terms of economic progress, he is extremely impressed by the degree of - say it quietly - research selectivity which has shaped universities over the last 20-odd years.

He clearly learnt as much as he taught, and is full of "cautious optimism" about India's future. Many of his experiences have no obvious relevance to Britain, but his warnings on the dangers of over-expansion and his espousal of centres of research excellence may strike a resonant chord among his "cushy" counterparts in this country.

Paul Flather meets Professor Tony Giddens and considers his pledge to promote sociology at Cambridge

A new champion in the lists

Sociology has been given a rough ride in recent years. It is no secret that Sir Keith Joseph is hostile to most exponents of the discipline and the rather crude view that sociology is dangerous because it leads to "radical critiques" is often put forward to explain why Conservative Cabinet ministers and traditional academics alike remain sceptical of the subject.

Sociologists led by such notables as A. H. Halsey and Ronnie Dore have for long been tilting their research lances in the tournament. Now a new champion has emerged, Tony Giddens, who took over the chair in sociology at Cambridge in March. Giddens is undoubtedly one of Britain's most exciting sociologists, part of the generation that includes Tom Bottomore, David Lockwood, Steven Lukes and Martin Altvater.

He has promised to try to give sociology a higher profile at Cambridge, no easy task in a university that has displayed a deep and lingering hostility to the discipline. Thus while chair at the London School of Economics in 1967, Professor John Barnes, an authority on kinship and network structures, did not move into the first Cambridge chair until 1969, and even then it was only a one-tenure appointment.

Students wanting to read sociology, or indeed politics, at Cambridge must first come up to read history, economics, or anthropology and switch in their second or third years. Another sign of low status is that social and political sciences do not exist as an independent faculty.

The suspicions of Cambridge dons were described in Professor Barnes's inaugural lecture in 1970. He noted bluntly how many dons did not regard sociology "as a proper academic subject", and recalled how the historian Henry Sidgwick in 1885 had taken a similar view that sociology was in a "very rudimentary condition". Sidgwick persuaded Cambridge dons to wait until sociology had "succeeded in establishing on the basis of a really scientific induction its forecasts of social evolution" before it merited professional recognition.

Instead, he advocated "more limited and empirical studies of society in a scientific manner as

possible". Professor Barnes went on to analyse why such views were so widely shared. Indeed why the ghost of Sidgwick still haunts Cambridge today.

One problem is that sociology is not clearly separated from the subject matter it studies, unlike say natural sciences, history, and the early anthropology. Sociologists are not insulated from their subject matter, they are open to criticism from all including the lay, and they appear to challenge the status quo, all reasons to doubt their academic respectability.

It was left to other British centres, notably the LSE, and mainland Europe and America to develop sociology, though Barnes noted there has been a lineage of good sociologists working in other departments at Cambridge. Oxford still has no chair in sociology, and though politics, philosophy and economics, is firmly established, as the most popular Oxford course, sociology is still a relatively poor relation. This seems to confirm the view that it is the conservative academic establishment at Oxford that is happy to condone the study of other cultures and countries, most obviously the colonies, but not to pursue studies of our own society, perhaps for fear of what might be revealed.

It is this kind of thinking that Giddens is out to challenge. "No successful modern society can survive long if it does not study itself. This is not a recipe for a ragbag of radicalism. There is an essential need for reflection, a genuine demand for new data about our society," he says.

His aims are threefold: to help introduce a first year course, or part one tripos, in social and political sciences, to create a wider research ethos in social sciences, and ultimately to win faculty status for the social and political sciences committee. Giddens, who as a fellow at King's College, listened to Professor Barnes's inaugural lecture and has spent the intervening years writing or editing books at the rate of about one a year, is well equipped for the task.

The need for a part one tripos is acknowledged within university circles and has been widely discussed over the years within the SPS

committee. There is a feeling that many students wanting to read social sciences post Oxford, the LSE, York, Essex, and Warwick at the top of their list with Cambridge barely featuring at all.

Giddens and others within SPS have been working on a new tripos for several years now and hope to present it to the economics faculty and general board for consideration by the end of the year. With the likes of Quentin Skinner, professor of politics John Dunn, Cathie Marsh Richards, and Geoffrey Hawthorn, SPS lecturers, Martin Giddens, a social psychologist, plus Tony Giddens, Cambridge already boasts a strong and exciting social science team. The aim would not be to replicate PPE, but nevertheless show up the interdisciplinary nature of studying how and why societies work.

An important hint that university opinion on a new part one tripos may be changing came in a report from the general board in December 1983 agreeing the reestablishment of the sociology chair after Professor Barnes retired in 1982. The board noted that previous proposals had not provided "the necessary breadth of teaching without detracting from first year teaching for other triposes". But it also hoped that suitable arrangements for introducing such a tripos would be made. A review of the existing part two of SPS tripos is also being considered to tidy up the different papers and the SPS committee would like a degree clearly linking sociology, politics, and social psychology, with close links with the faculty of archaeology and anthropology.

Giddens is also helping to set up a new Centre for the Study of Industrial Societies at King's with backing from the college and hopefully support from the Economic and Social Research Council. It will be modelled on existing centres in France and Germany, full-scale interdisciplinary research into contemporary social institutions, across ethnic and cultural boundaries, an area much neglected in Britain. Giddens would also like to see a social science MPhil at Cambridge, a means to

encourage overseas students to come to the university for research. "We need to build an ethos of research in social science at Cambridge more akin to Oxford or the LSE," he says.

Clearly the SPS committee will have to tread carefully. There is still the matter of disposing of Sidgwick's ghost, and the university's political hostility to sociology. There is more significantly the problem of encroaching on neighbouring faculties. Anthropologists particularly have felt a little threatened. Professor Ernest Gellner, who now holds the chair of social anthropology, is likely to be more sympathetic to demands for a stronger, interdisciplinary, social science approach at Cambridge.

The historians are unlikely to see social sciences as a direct threat. Several SPS and history papers overlap, and mutual links should continue. Certainly PPE and history happily coexist at Oxford. It is difficult to judge opinion within the powerful economics and politics faculty. Sociologists currently have a strong and widely recognized input to the economics tripos and there should be few grumbles if they now want to aim for their own faculty.

However, there may be grumbles, given fixed student numbers and the current climate of cuts. One of the main stumbling blocks for Cambridge social sciences was undoubtedly that after the early discussions in the 1950s it was not until the 1970s, when the new money started to run out, that the subjects were allowed to develop at all within the university.

Professor Giddens knows full well how Cambridge politics works. He himself experienced great difficulties before finally becoming a reader last year. Now he holds the chair, having beaten about a dozen other contenders.

Giddens has two key advantages. He has a well established academic reputation derived from his expository writings on Marx, Durkheim and Weber, and works like *The Class Structure of the Advanced Societies*, common on student bookshelves, and *The Constitution of Society*. He also has age on his side. At 46 he has over 20 years ahead to lay Sidgwick's ghost once and for all and persuade Cambridge dons that sociology, in common with all other disciplines, should also have a permanent chair of its own.

In September The Times Higher Education Supplement

published a 4-page analysis of the joint statement from the University Grants Committee and the National Advisory Body regarding the basis for considering the present and future role of higher education in our society.

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مكتبة الأصيل

Ernest Boyer



New protest era of the respectable radicals

In the spring of 1985, there was a groundswell of student activism on college campuses. From coast to coast, more than 70 colleges were the scenes of protests against apartheid in South Africa. The numbers were impressive: nearly 1,000 demonstrators were arrested at Cornell, and nearly 7,000 demanded that the University of California divest \$2.4 billion in investments in South Africa.

At first, the groundswell over apartheid seemed limited to the Ivy League and prestigious research universities; then the protests spread to midwestern state universities. The demonstrations were not limited to South Africa: education cuts, Central America, nuclear disarmament and starvation in Africa also spurred the most prolific student activism in 15 years.

At Harvard University, a committee was reactivated that in the Vietnam era disciplined students accused of disruptions. The committee had not heard a case in a decade. And protests of one sort or another were scheduled at almost 100 college commencement exercises.

There has been much speculation here as to why activism surfaced in 1985. A tell-tale sign of spring, some said. Others saw it as a shift away from what has been called the "me generation" on the campus.

The appearance of the apartheid protests on Ivy League campuses was rationalized by one faculty member: "These students see themselves as part of the establishment. They see becoming a trustee as part of their future—so they have a deep commitment to what the system ought to be." There was a counter view: "These protests go some distance in disproving the idea that we're one homogeneous student body heading for business suits," said a Yale anti-apartheid leader.

While the news stories were quick to compare the new protests with those of the 1960s—Berkeley, long-time activists like Angela Davis, Daniel Ellsberg and Cesar Chavez, were among those arrested—the style of the demonstrations revealed a new dimension.

At the University of Colorado, where students politely negotiated with school officials, an administrator called the demonstration "the most civilized on the face of the earth." At Columbia, anti-apartheid demonstrations lasted three weeks without violence. "This is an 80s protest. It is very well organized and was non-violent from the start," said one demonstrator. "Even the most vehement of them don't hate Columbia," said one professor.

Clearly, this was a more confident, more upwardly mobile generation at the barricades: student organizers set aside "quiet periods" for the demonstrators to study. In the spring of 1985, there was no need for an underground press: user-friendly protesters maintained immediate communications on more than 100 campuses with a "networking" computer link.

While the upsurge of campus activism touched upon several different issues, critics pointed out that little of the activity had a broad-based support. The Vietnam war affected all college students.

In the spring of 1985, the anti-apartheid demonstrations slowly spread to state universities with South African investments. The protests seem to have stopped there: the apartheid issue, some argue, will never hold a broad base for protest because most institutions do not have investments in South Africa.

At about the same time the new wave of protests erupted, social analyst Daniel Yankelovich predicted that idealism would once again be-

come a driving force in the lives of college-age students, replacing more success-oriented goals. Yankelovich said idealism lies "just below the surface of the Baby Boomers' pragmatism and calculation, and articulates itself as a nameless yearning. It will break out. In what form I don't know." He predicted "the emergence of a new philosophy in life."

A national survey of college freshmen shows that while American college students are more materialistic, they are not necessarily more conservative than past generations. On such issues as abortion, conservation, busing and disarmament, 18-year-olds are more liberal than earlier generations.

Accompanying the wave of protests this spring was another kind of activism, one that was foreshadowed by Yankelovich. On many campuses, students were increasingly volunteering for community-service programmes. "Students are sick of reading the polls and the surveys about what they're supposed to be like. They're showing just what they can do," said Stanford president Donald Kennedy.

At Stanford, a new public service programme in the summer of 1984 awarded fellowships to 14 students for volunteer activities as working with Mother Teresa in Calcutta and researching pesticide use in the third world. Seventy-two Stanford students had applied. Beyond this, about 300 of the 6,500 Stanford undergraduates regularly do volunteer work.

Brown University offers fellowships of \$1,000 to \$2,000 to students who participate in service programmes. The fellowships may be awarded to freshmen as well as to students who have taken a year off to do public service.

Ten Harvard undergraduates were awarded Lamont public service fellowships up to \$1,000 in the summer of 1984 to do volunteer work ranging from tutoring minority students to working in adolescent emergency centres.

State's Dwight Hall, 100 years old in 1985, is a centre for community service that matches students with community groups. In five years, the number of volunteers at Yale, who work mostly in New Haven hospitals and schools, has risen from 800 to 1,100.

Each of the students who live in Georgetown University's Copley Hall must spend at least five hours every week working as a volunteer in the Washington community.

Twenty students run the Columbia-Barnard community lunch programme, serving meals to 200 hungry people.

And many schools, particularly those with religious ties, have always encouraged voluntary community service.

Appearances can be deceiving. There is no evidence to support the conclusion that a groundswell of student volunteerism is in the making. In fact, nearly 30 per cent of America's 1980 high school graduates, when questioned about a mandatory military or community service programme, said they would try to avoid that type of service. Only 58 per cent of the 18 to 24-year-olds in this country support such a requirement.

It is also clear that on many campuses in the United States, a few do everything.

What we seem to have today among college students is a liberalism tempered with self-interest. While no one is urging a return to the violence of the 1960s, still a new mood seems to be emerging on the campus. Today, students still care deeply about career success. But there are signals that they have more concern for others, too.

The performance factor



AFTER THE GREEN PAPER

John O'Leary on the annexe to the Green Paper that deals with measuring the value of higher education

education was the preserve of a relatively small band of academics on both sides of the Atlantic. Most have been concerned more with judging the performance of academics or departments than with the inter-institutional questions which are addressed in the Green Paper.

The academics have been in no doubt as to the problems involved in setting indicators for higher education. There is no easy or universal summary of its objectives and any attempt to monitor an institution's contribution to society is necessarily a lengthy and uncertain exercise. Professor John Sizer, a leader in the field from Loughborough University and now a member of the UGC, pointed out in a survey of the current work for the Leverhulme inquiry that many of the most common indicators are actually process measures of institutional performance, rather than measures of outcome. They measure the efficiency of institutions, not their effectiveness.

However, it is this basic groundwork that the DES is now trying to complete, and which the Jarratt committee found lacking even in the universities. The committee's report found the lack of systematic use of performance indicators a serious omission in allocating resources and it said: "Quantitative performance measures play some part in the allocation in most institutions. These measures usually merely supplement the qualitative judgements made by colleagues on performance and views about short-term political pressures."

The report split the available indicators into three groups: the internal (such as graduation rates and classes of degrees), external (such as acceptability of graduates in employment) and operational (such as unit costs and staff/student ratios).

The Green Paper signals DES interest in the second and, especially, the third groups. And it gives a brief account of further work done in the department, of efforts to extend such measures of effectiveness into one of effectiveness for society as a whole.

It makes clear from the start the reasons for the Government's activity

in the area: "The pursuit of value for money in higher education can only be successful if it is based on an analysis of benefits and their related costs in different activities." The difficulties are acknowledged, but the Government's determination to press ahead is not in doubt.

Distinguishing between higher education's output in terms of highly qualified manpower, research and "other social benefits", the Green Paper runs through a series of existing measures, such as recurrent costs per student across the sectors, the output of graduates and costs per student and per graduate in universities alone. By taking these and other indicators in combination, the DES hopes to build up a picture of how the system is working, the paper says.

Some of the statistics are revealing in themselves, however. The cost of educating a university student in architecture, for example, is shown to be less than that for physics despite much longer courses. But, in 1979 at least, architecture and the other professional courses grouped with it had the highest drop-out rate by far, more than one fifth in all years of the course and 8.5 per cent in the first year alone. Six years on, the DES finds the wastage rates for architecture "warrant further inquiry".

Yet it is the comparisons which cannot be made which are the most obvious. Public sector figures do not differentiate between degree courses and other courses, and statistics are not available for polytechnics and drop-out rates for polytechnics and teaching research time for staff in either sector. And after graduation, when measures of effectiveness should come into their own, the picture is even less clear. Statistics for the first destination of graduates' chart only the first six months of careers. Employers' surveys and even censuses have to be cross-checked against first destination statistics to provide any sort of long-term indicators.

Other countries are little further ahead in the use of performance indicators, however, despite a longstanding interest within the Organization for Economic Cooperation and Development. Work done for the OECD Institutional Management in Higher Education Programme is still continuing with the aim of assessing the extent to which they are used in Europe, Japan and the United States.

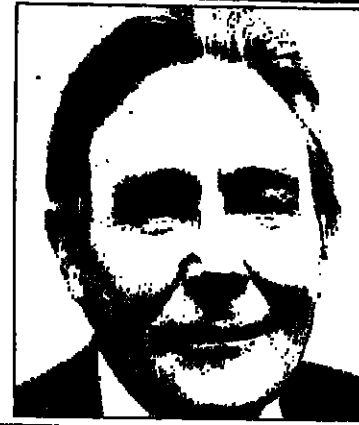
As long ago as 1975/76, six German universities set about gauging the potential of comparative indicators for both planning and the allocation of resources, but a key research project flowing from the experiment concluded that they would be of use only in limited fields. Elsewhere, more detailed systems of higher education produce the database necessary for national comparisons, but little use has been made of the information.

Recent statistics in France, for example, were sufficiently comprehensive to record 160,837 places in university cafeterias, but only now has a new committee been charged with the job of monitoring the performance of higher education.

Three views of Command 9524

'The paper is not seriously green ... it rationalizes decisions already made and is therefore Thatcherite blue'

A. H. Halsey



The failed thrust of the 1950s and 1960s towards universal post-secondary education by devising a new policy framework of continuing education for all in the emerging conditions of a "post-industrial" society. The Thatcherite intention is quite different: the advice was to be ignored or rejected and, oddly, named and numbered civil servants may be telephoned by readers seeking further information.

Yet, though the evidence is trivial, the import is at least as serious as the magnificently documented Robbins report of 1963. The two documents invite historical comparison because each is the reflection in higher education of a distinct period of modern British history. Robbins recorded, in a careful, deliberate and elaborate "Royal Commission" style, the cultural aspirations of post-war Butskellite social planning. Command 9524, by contrast, reflects the administrative minutes of an agenda of economic liberalism in a Thatcherite withdrawal from planning into private enterprise. Robbinsian pink and Josephian

green are separated by the crisis of the mid-1970s which brought the post-war period to an end. Robbins came out of a post-war phase which, for all its travails of post-imperialism and changing terms of international trade, was economically a generation of continuous boom and politically a period of consensus. The establishment remained rooted in an indomitable mild Tory conservatism and Atlee-like pragmatism. Robbins was a characteristic product of Butskellism.

It reflected awareness that occupational elites were expanding and demanded an educational response. It had social affinity with welfare state ideology, its sympathy towards expansion of opportunity, including educational opportunity, by state action. It had no less affinity with traditional gentlemanly conceptions of the character and purpose of a higher education. More of the same was required. We were therefore given a plan to prepare 10 per cent instead of 5 per cent for graduation into the expanded elite through the traditional total im-

mersion in tutorial college life for three years, the experience to be paid for by the state in tacit confidence that each selected individual would repay the social debt in full by a life-time of professional service.

A private sector of the economy was assumed and graduates would enter it, though the essential conception of the university product was tied to the professions rather than to business enterprise: the image of business was of BP or ICI or some other bureaucratized giant company more or less indistinguishable from a nationalized industry or even a Whitehall department. There was a call for local, private and business support for higher education and the hope of sturdy competition for fame through intellectual exploits outside the Oxford and Cambridge axis. But the central idea was a Victorian ideal—a civilizing mission for the universities, motives of service rather than gain, research rather than development, cultivation rather than training. Robbins inherited intact the legacy of Victorian progress: the only problem was to adapt it to a more prosperous, more democratic, and more scientific age.

Joseph's Green Paper reflects the sharply different outlook of a transformed Establishment. Britain is assumed to be no longer capable of affording its post-war generosity. The market must rule with the unacknowledged implication that the Establishment must become a crude economic class instead of the subtle blend of class and status which dominated Butskellite Britain. Salvation for the nation depends on enterprise rather than professionals: the inspiration comes from the early rather than the late Victorians.

The pivotal role of the university in elite education is accordingly questioned. Their research potential must



AFTER THE GREEN PAPER

be realized in technology for industry and trade and under the discipline of proven productivity. Students are not to be thought of as gentlemanly meritocrats entitled to state pensions but rather as the bearers of human capital ripe in some cases for selective investment by private parties, including the student himself or herself.

The economic logic of liberalism is applied from the ideology of the new Conservative establishment to a policy for higher education which makes prices into paramount values. The consequent forecast is one of remorseless decline. The Butskellites, admittedly in a long boom but also in a poorer country, defined politics as a search for balance between economic calculation and social aspiration. Their heirs gave a public rebuke to Mrs Thatcher earlier this year in Oxford. They were protesting in advance against the philistine single-mindedness of this Green Paper. They knew that Thatcherism down the ages would have refused the building of a cathedral. They insisted that an educational system for the 21st century must have ambitions beyond that of a commercial training camp.

The author is professor of social and administrative studies in the University of Oxford.

'The Green Paper bears a very close resemblance to an uncultivated PhD thesis'. All that is missing is any evidence of original thought'

Edward Parkes

My first thought after reading the long awaited Green Paper was that all of this greenery hanging around Elizabeth House for so many months had persuaded Sir Keith Joseph into joining the Friends of the Earth. For although Cmd 9524 does not actually say that it is made from recycled paper, it is very largely composed of recycled ideas. Now there is nothing wrong with this, if out of the recycling, something new and valuable emerges; but nothing of the kind has occurred.

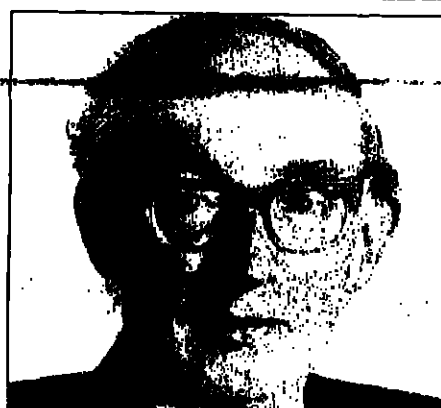
I own a disgracefully sexist print, published in Jankington in 1803, in which an old man is pushing his equally elderly wife, in a wheelbarrow, to a magic windmill. The old lady is inserted into the top of the mill, and out of the bottom drops a beautiful damsel, to the evident pleasure of the husband. Sir Keith has taken his wheelbarrow of elderly ideas to the magic word-mill of the DES, but instead of a vigorous young lady stepping out of the bottom, we have the same old woman, somewhat battered by the experience.

The Green Paper bears a very close resemblance to an uncultivated PhD thesis. There is an enormous amount of copying out of references. All of the right people are quoted at length. There are footnotes galore. All that is missing is any evidence of original thought on the part of the candidate.

Cmd 9524 begins with the sentence: "This paper presents the Government's thinking on higher education". The most careful perusal can only lead one to the conclusion that those thoughts are very few in number and very shallow in character. What the paper does present is not the Government's thinking, but the Government's wishes. Let us examine some of them.

First, the Government wishes to see greater vitality and flexibility. The universities, in particular, must be able to respond rapidly to new needs. To aid this process it proposes to bleed the system into the indefinite future. The haemorrhage, assuming wage settlements at the Government's pay norms and accepting the Government's estimates of inflation, is expected by the University Grants Committee to be 2 per cent per annum; the real figure may well exceed the rate of the 1981/84 cuts. During those cuts large numbers of older staff were bribed out of the system: we have very few retirements for a decade. Where lies the flexibility?

Second, the Government wishes to see a switch in output towards science and technology, where graduates cost twice as much as those in the arts. The possibility of change against a background of rapidly diminishing resources must be severely constrained, even in the public sector, which starts with a higher proportion of arts students than the universities apart from financial links.



There is a reluctance on the part of young people to choose science and maths A levels, something which the Government finds "remarkable". Has the Government ever considered the financial disincentives against able science graduates entering school-teaching, and the effect that their absence from the classroom must have on pupil choice?

Third, the Government wishes to see greater emphasis on innovation. It simultaneously proposes much greater concentration in research support, so that some departments or even whole universities will lose all UGC research funding. Governments and research councils can only reinforce that which they perceive to be important at the moment; they cannot predict the new and the unexpected, but they can prevent unorthodox development by starvation of resources.

Fourth, and finally, the Government attaches great importance to raising standards. It proposes to accomplish this by a "further tightening of student:staff ratios". We are also told that "employers across higher education have experienced little difficulty in attracting and holding able and well qualified teachers in most fields". Has no one told the Department of Education that the problems in filling the "new blood" posts?

The saddest aspect of the Green Paper is its failure to recognize that many of the Government's wishes are also the wishes of a majority in higher education. We do wish to see greater vitality and flexibility. We do wish to improve quality. We would like to produce more able scientists and engineers. Instead of admonitions about collaboration with industry and the more effective use of resources (matters to which we have for years devoted a great deal of energy), what higher education needs is some realistic governmental forward planning.

Many of us in higher education have a high regard for the Secretary of State's intellectual capabilities. Please Sir Keith, apply them to how our mutually desired objectives are to be achieved.

The author is vice-chancellor of the University of Leeds.

'It fudges almost every substantive issue and fails to provide a policy framework'

Bob Smith

The Green Paper is to be welcomed for stating openly something we all know but would not admit, that higher education exists primarily to educate (and re-educate) the highly qualified manpower demanded by today's industry, commerce and public services. And all commentators tell us that tomorrow's industries will be even more graduate-intensive.

Another welcome is to the call for better leadership and management within higher education and for higher professional standards in academic staff in teaching, research and in academic structures; even greater turnover between education and other jobs. Sadly the Green Paper does not follow through: it fudges almost every substantive issue and fails to provide a policy framework within which its major objective of closer attention to industry's needs can be properly developed.

The recognition of the needs of industry for "appropriately qualified manpower" is simplistically translated into "scientists, engineers, technologists and technicians". Today's industry and commerce are complex, requiring graduates from many specialisms; accountants as well as scientists, designers as well as engineers, etc. etc. What most certainly are needed are graduates with relevant skills, whether sharply defined technological ones, more general business skills, or the breadth of view and intellect developed through the study of the humanities and the social sciences. Industry's description of what it needs is almost always much wider than is Sir Keith's.

The "switch" into engineering and technology has perils of its own. As admitted in the Green Paper there are inadequate numbers of young people coming forward with the right combinations of A levels for these courses. The problem arises in large measure from deficiencies in the teaching of science and mathematics in the schools, something which looks to get worse before it gets better.

As well as highlighting the importance of higher education to business the Green Paper applies some concepts drawn from the business world to higher education itself. Not the least of these are the importance of clear objectives and measures of success in their achievement. To this end the development of performance indicators is to be applauded but with the caveat that they must treat honestly and openly the costs of different types of institution, the added value between school and final employment provided by different courses, and constraints imposed by government itself.



The Green Paper ducks almost all the issues of immediate concern. Why are teaching costs in the polytechnics held lower than those in the universities? (Confirmed by the DES's own study on Funding Comparisons Across Sectors published the day after the Green Paper.) Why no recognition of the fact that higher education has covered with a growth in demand of more than 10 per cent since 1980 and yet mergers and closures of institutions are predicted by a forecast reduction of demand of less than 14 per cent by 1995? And, of course, the ghost of stage, the impact on student demand of any further changes in grants and fees and even the introduction of loans? The consultative paper on student support will almost surely be far more significant than the Green Paper itself in determining changes in the demand for higher education.

The most substantial flaw in the Green Paper is its failure to articulate any positive model for higher education in the 1990s. The elements are there: continuing education, closer involvement with industry, joint appointments, and so on. All the DES seems to be able to do is dress out the old models: the universities as "the principal guardians of pure academic excellence" but without public accountability; the polytechnics hardly different from the technical colleges from which they largely derive and still enmeshed in outmoded local authority controls.

But there are other models, and ones with a close coupling between what is taught and what is practised. The medical schools where no self-respecting teacher does not also work as physician or surgeon; the postgraduate business schools; and even Cranfield Institute of Technology! Development towards these models, but centred on undergraduate courses and links with the whole range of industry, commerce and the public services, could revitalize higher education and bring to it the confidence and self-respect it seems in large measure to have lost. If the Government will not lead then higher education itself must show the way.

The author is director of Kingston Polytechnic.

What society gets for its money

The most far-reaching and potentially controversial of the indicators illustrated in the Green Paper attempts to measure the "social rate of return" to university first degrees.

Drawing on studies carried out in the United States, the DES has produced a formula which balances the cost of educating a student against the value to society, measured through his or her salary. It is accepted that this is a rough and ready measure of worth to society, but pay is widely accepted as one measure of productivity.

The indicator assesses university graduates only because of incomplete data for the public sector, and takes the form of an "alpha factor" measuring the difference in earnings of graduates against those without a degree. Two alternative figures are given, a factor of one assuming that all the difference is attributable to the degree, and the preferred figure of 0.66 assuming that other factors (such as ability) play a part. A second set of figures excludes research costs from the calculation.

A steady decline in the rate of return is shown, which is reversed in the last year analysed. The decline reflects the depression of pay differentials generally and the tendency for graduates to take more lowly-paid jobs as the supply of qualified manpower increased during the 1970s. The Green Paper, using the yardstick applied by the Treasury in measuring satisfactory rates of return on public spending projects, includes the judgement that higher

The social rate of return (per cent) to university first degrees			
Based on total costs		Based on costs excluding allowances for research	
Year	Alpha Factor	Year	Alpha Factor
1971	1.0	1971	1.0
1972	0.8	1972	0.8
1973	0.7	1973	0.7
1974	0.6	1974	0.6
1975	0.5	1975	0.5
1976	0.4	1976	0.4
1977	0.3	1977	0.3
1978	0.2	1978	0.2
1979	0.1	1979	0.1
1980	0.0	1980	0.0
1981	0.1	1981	0.1
1982	0.2	1982	0.2

education appears from the calculations to be producing satisfactory returns.

Work is continuing on refining the technique, which could be used to measure the performance of different subject areas or even institutions. The DES makes no great claims for the validity of the results, acknowledging that the analysis is "hampered both by conceptual problems and data limitations", but it is expected to identify trends worthy of further investigation.

مكتبة الأصل



The pictures, clockwise from top left, were taken by GARETH JONES, GRAEME MONTGOMERY, GARETH JONES, ERIC JUDLIN and STUART BATLEY

Focus on London

by John Yates

London in the mid-1980s is the focal point of an ambitious photographic project jointly organized by the London College of Printing and the Museum of London.

First-year student photographers have been commissioned by the museum to photograph a set range of topics anywhere within the boundaries of the Greater London Council.

Their collected work will form a permanent archive of everyday life in the capital, culminating in an exhibition at the museum in the summer of 1987. After that the collection will be held at the museum for use by social historians and the general public.

The collection is the brainchild of Charles Craig, head of photography at the college. "More than anything else the archive is a celebration of the ordinary," he said. "We are not taking photographs of famous people and events, but of everyday life."

The museum has suggested a series of 15 topics, but students with other ideas are welcome to put them up for consideration.

The 15 topics are: education; eating out; offices; health care; costumes; London at night; service industries; "where I live"; the city atmosphere; back gardens; travel;

shopping; Heathrow airport; uniforms; and a child's eye view.

Students are free to work in their own style, but they have been asked to look with a keen eye for the telling detail – a hairdo, a custom car, or a billboard posting – that will fix the photograph in time.

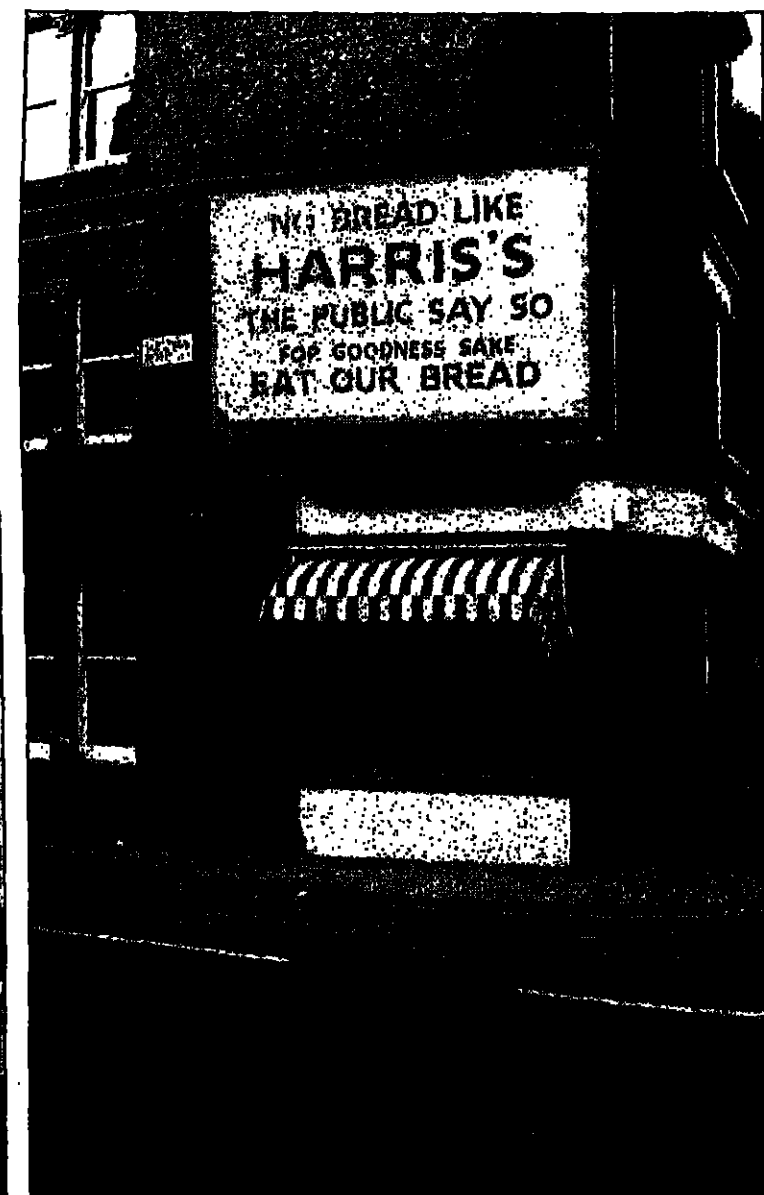
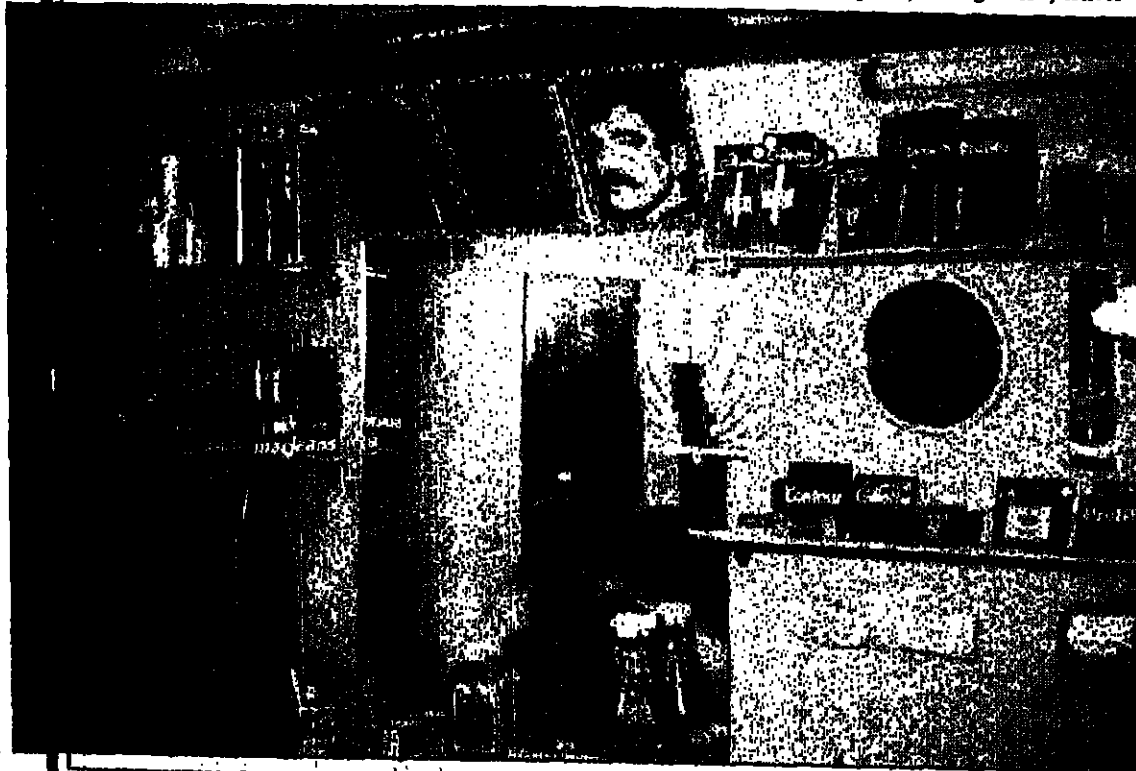
Mr Craig said his most difficult task had been to get the students to think of taking pictures for no immediate audience.

"This is a rare opportunity for them to work free from commercial pressures to create a body of highly personal work with lasting historical value," he said. "When our students leave college most of their work will be for clients who want

the picture immediately and its value will be transient."

The students have run into a number of unsuspected problems. Andre Pini's attempt to photograph the fast-food giant, McDonald's, was stonewalled. Eric Judlin was prevented from photographing gas tanks by the Gas Board. Stuart Edwards, working on the theme of public service, was told he could not photograph the soon-to-be-extinct bus conductors because they were too busy; he got round the problem by snatching unposed shots outside Brixton bus garage at 4 am.

The project is supported by Ilford and AV Distributors.



An inspiration or an abomination?

Important clinical work is being done with psychoanalysis on the treatment of borderline states, roughly definable as that area of behaviour that can be situated between the realms of "neurosis" and "psychosis". Others have made pioneering efforts in the study of *psychohistory*, an extension of psychoanalysis which seeks to investigate, for instance, how childhood experiences influence politicians and world leaders in their careers. Professor Rudolph Binion discovered that Hitler's mother, Klara, had been fatally mistreated by a Jewish physician and he investigates the influence of this traumatic early loss on Hitler's subsequent anti-semitism. Psychoanalytical clinicians and scholars have written so much that it is difficult for the expert to remain abreast of all recent contributions.

Thus, many have felt a need for further study of the groundwork and fundamental assumptions of psychoanalytical theory, perhaps to keep its rapid expansion in check. Here the French psychoanalysts in particular have been astute in their critical analyses of the axioms that Anglo-American psychoanalysts take for granted.

The psychoanalytical historian Elizabeth Roudinesco has remarked that "French psychoanalysis" *per se* does not exist; rather, there are many schools of psychoanalysis and it would be more pertinent to speak of a *psychoanalytical movement* in France. One of the most interesting elements in this movement has been the work of the controversial analyst Jacques Lacan, who died in 1981. Lacan's work strikes people as incomprehen-

sible and jargon-ridden; it tends to alienate the Anglo-Saxon reader, and it has not yet invaded Great Britain in the way it has swept France, where it subverts a mass of books, journals, media articles and even television programmes.

Lacan has been depicted on the one hand as a true orthodox Freudian and on the other as a heretic (the latter expressing the view of the International Psycho-Analytical Association, the organization that went so far as to excommunicate him many years ago). He has been diagnosed as a "schizophrenic", a verdict that echoes the unofficial judgement of the IPA. A British psychoanalyst once told me categorically that "Lacan's reality testing broke down years ago", reality testing being the process whereby we are supposed to distinguish between reality and fantasy. Many British psychoanalysts consider Lacan to have suffered from a "profound thought disorder". In this country, he has been ignored by most clinicians, in spite of the fact that he had spent years exploring the technical issues of practice.

Indeed, Lacan frequently said that his aim had always been the training of analysts. Yet he is not neglected completely. A handful of younger scholars see him as an important and serious thinker. Most of these have been *littérateurs* and feminist theorists who, open to psychoanalysis, have appropriated Lacan's teaching. Academic psychologists neglect Lacan completely (just as they shamefully forget the existence of Freud).

The field of Lacan studies is confined to a small number of indepen-

dent scholars who operate on the fringe of the university. Translation of some of Lacan's seminars will be appearing shortly, as well as several studies of his contributions to psychoanalysis. There is also some interesting research being done into Lacan's background in psychiatry and surrealism, a movement with which he was very much involved.

Without doubt, Lacan's style puts off many of his would-be readers: the transcripts of his seminars are brimming with obscure allusions, peculiar diagrams and baffling terminology, yet it is not just this which causes tempers to rise. Lacan sent much of his time publicly insulting many eminent psychoanalysts and psychologists. In the course of his seminar he would pick out a recently published article and then proceed to demolish it in a disparaging fashion. Needless to say, Lacan did not focus his attention on the more butterflies; rather he took to task the world leaders of psychoanalytical theory and the self-declared defenders of the Freudian faith, including the Master's own daughter, Anna Freud.

Most of Lacan's victims represented that very Anglo-American strand of psychoanalysis known as *ego psychology*. It was not only the psychoanalysts who fell prey to Lacan's incisive critique; he also verbally belaboured the positivists, the behaviourists and all brand of experimentalists.

Teaching the ego to talk . . .

What is ego psychology, and why did Lacan think it so dangerous? It would be unfair to criticize this mode of thought from a Lacanian standpoint, although both Lacan and the ego psychologists claim to have their origins in the Freudian text. Their hermeneutic principles rest on such distant presuppositions that to criticize one from the standpoint of the other would be a futile task. We might define ego psychology, then, as an extrapolation of Freud's theory which shifts the emphasis from the primacy of desire and the unconscious to the ego, the conscious and supposedly rational and healthy parts of personality.

Great attention is paid to the ego's defences, and it was Anna Freud who pioneered the study of the ways in which the ego can be strengthened to defend itself against unpleasant stimuli. Heinz Hartmann, working on a similar path, explored the idea of ego adaptation, or how the ego can be transformed to adapt itself to society.

Issues such as normality prevail in discussion, and ego psychology remains perhaps the most prescriptive side of psychoanalysis. When in 1973 the American Psychiatric Association was debating whether homosexuality should remain a psychiatric disorder, it was two psychoanalysts, Dr Irving Bieber and Dr Charles Socarides, who insisted that it should still figure as a perversion and as a disease category. It was these ego psychologists who had such a clear notion of what constitutes normal sexual behaviour and who were so insistent on having their ideas put into practice. For many readers of Freud, such an approach seems completely out of character with the psychoanalytical ethic that he inaugurated. Freud, they would argue, was persistent in claiming the vagueness of what constituted "normal" and "abnormal" sexual behaviour.

Lacan did not assert that nothing valuable had emerged from what we call ego psychology, yet had argued that it was unquestionably unfaithful to the Freud it claimed to follow. The ego psychologists had erected the Self where Freud had seen only a splitting (*Spaltung*) of the ego; where Freud had seen conflict and multiple identifications, his so-called heirs had seen a unity and a psychological conference.



thing akin to the variable informal logic, as Lacan pointed out. Since this subject emerges through speech, we could say that, rather than the unconscious being the condition of language, language functions as the condition of the unconscious. Psychoanalysis, as a dialogue between two people, takes place essentially as an activity and as an experience of speech; indeed, it was in listening to his hysterical patients that Freud had formulated the crucial tenets of psychoanalysis. The ego psychologists privilege the ego to the detriment of speech, while since psychoanalysis can only treat illness through language, it must be to the study of language that our attention turns.

The ego, for Lacan, is an imaginary entity serving to "misrecognize" the unconscious, as Freud had often remarked. While the latter had at one time introduced a "Wissenschaft" – translated by Strachey as "epistemophilic instinct" – Lacan rejected this as a myth. People simply do not want to know, he claimed, and it is the ego which sustains the "passion for ignorance" characteristic of the speaking being. The ego, says Lacan, is the seat of the resistances, and not the great helper his adversaries had made it out to be.

One of Lacan's most sustained attacks on ego-psychology is to be found in a lecture given in Vienna in 1955, which he entitled "La Chose Freudienne" (The Freudian Thing). To read it today is to have the uneasy feeling that the mode of thought is eradicating its still widespread, having penetrated so deeply into popular conceptions of mankind.

Freud, Lacan tells us, has been betrayed by the very people who claimed to be following in his footsteps, and it has become vital to undertake a "return to Freud", that is, the meaning of Freud elicited from a close reading of his texts. American style psychoanalysis, he says "has been so summarily reduced to a means of obtaining 'success' and to a mode of demanding happiness that it should be pointed out that this constitutes a repudiation of psychoanalysis, indeed, a repudiation of the Freudian vision. It provides 'cut-price ideas' to cater for everyone, removing the subversiveness that



Jacques Lacan: hailed by some as Freud's heir, attacked by others as a dangerous, even insane, megalomaniac

psychoanalysis necessarily entails. Likewise, it is "filled to overflowing with old novelties and new junk, the sheer mass of which is certainly entertaining. The ego is a function, the ego is a synthesis, a synthesis of functions, a function of synthesis. It is autonomous! That's a good one!"

What is there indeed, he says, to distinguish the ego of the ego psychologists from the very desk that stands in front of him. "Is the difference between the desk and us, as far as consciousness is concerned, so very great, then, if the desk can so easily come to resemble us, and be brought into play between you and me, that my words should have made any mistake possible?"

It is no use trying to find the unity of the self upon a mere conceptual schema. The mere recognition of separate entities, be it desk or self, is not an adequate basis for egology. What is further undermined are the operational and technocratic uses of ego psychology, uses which have undesirable political and social effects. Now, if the ego's health is to be defined by its adaptation to reality, and if one needs the cooperation of the "healthy part of the ego" to reduce incompatibilities with reality, is it not clear that "there is no other way of distinguishing the healthy part of the subject's ego than by its agreement with (the analyst's) point of view?" It is the analyst's standard which provides "the measure of things", with which the analysand must conform. This seems to confirm the purpose of analysis as identification with the analyst, an idea which is now, no longer, perhaps, officially accepted in psychoanalytical circles.

However, surely if we follow Lacan's logic, we can see that this supposition has not disappeared, but it has only retreated to a different level where it remains effective.

Lacan's teaching has had virtually no impact on Anglo-American clinical practice, and we should ask why, instead, he has been adopted by the *littérateurs*, feminists and film-theorists? One answer is clear: that Lacan provides the most exciting re-reading of Freud available, and urges us to interrogate the Freudian texts using their own principles. Yet, unfortunately, to reduce the Lacanian teaching to a dogma, a static body of theory, a defined position. There is more to Lacan than a set of fashionable statements like "The unconscious is structured like a language". Lacan is labelled a structuralist or a poststructuralist and classed alongside the likes of Michel Foucault and Jacques Derrida. As Jacques-Alain Miller has said recently, lamenting this situation: "There is no such thing as the work of Lacan, there is a teaching," a teaching which is first and foremost an oral one, a constantly changing series of positions and stances. While Lacan urges us to return to Freud, so likewise we must, in a sense, return to Lacan, examining the shifting use of certain terms and understanding the temporality of a teaching. It is in this way that there is, and will be, life after Freud.

The author is a founder member of the Cultural Centre for Freudian Studies and Research, London, and editor of the forthcoming *Transmission and Psychoanalysis*.

R. L. Willson reports on a thriving branch of biochemical research at Brunel University

Radicals emerge from the shadows

Outside the reinforced concrete bunker the minister shakes the flat medicine bottle half full of colourless liquid. His "secretary" looks apprehensive. Terrorist outrages are still making regular headlines; indeed only a few months later the front of a nearby building is to be blown out by an IRA bomb.

The minister unscrews the top of the bottle, then taking a deep breath blows into it. Nothing appears to happen. He screws the top back on and shakes the bottle again. Suddenly, the colourless liquid turns a deep port colour—water into wine! The minister smiles, the "secretary" smiles. After all, although this was taking place in Uxbridge in west London, it was not a visit by the Minister of Defence to the famous wartime RAF bunker, but one by the Minister of Health to a specially designed radiation laboratory on the Brunel University campus.

As its name implies, many of the courses at Brunel have a strong engineering bias. However, the university also has strong science and social science faculties with big research programmes in several areas of biology and medicine. The Brunel Institute of Bioengineering led by Professor Heinz Wolff also flourishes here. This particular visit by the minister some four years ago was to serve as an informal fact-finding mission concerning the establishment of a postgraduate centre linking the adjacent Hillingdon Hospital with the university.

Last year the centre was opened. Today another building is nearing completion thanks to funds from the Cancer Research Campaign. Already inside, a linear accelerator used to treat cancer patients in another local hospital, Mount Vernon, is having a temporary respite. Associated computer hardware and sophisticated electronic apparatus, designed to follow delicate colour changes occurring over time scales of the order of a millionth of a second, also wait to spring back into life.

In yet another building, constructed with funds from the Medical Research Council, solutions of proteins thought to be involved in inflammation and tumour promotion are being exposed to Cobalt 60 gamma rays. A few yards away in the main science building, a new electron spin resonance spectrometer with its large magnet and microwave generator is collecting signals from ground-up samples of heart tissue, frozen in liquid nitrogen. Liver samples from Oxford who have died of the tropical wasting disease Keshishor and specimens of cervix tissue wait to be examined.

Upstairs, the rate at which enzyme levels change and oxygen is consumed when tissue preparations are exposed to various toxic chemicals, are being measured. In another laboratory, the peroxisome fatty acid derivatives (prostaglandins) known to have potent biological activity are being detected using the latest chromatographic and radioimmunoassay techniques.

Clearly by any standards research here is thriving. Yet the Brunel biochemistry department is numerically small with only seven permanent academic staff. How in these times of academic austerity does it come to have all this expensive new equipment regularly attracting senior visiting scientists, not only from nearby Egham and Oxford, but from China and New Zealand?

How did it manage to initiate the formation of a new society which after only three years has some 500 members from many walks of chemistry, biology and medicine? And why "the magic bottle experiment" and the visit of the minister to the old radiation laboratory?

The answer: free radicals and the considerable forefront, not to say faith, of two people—Professor Trevor Slater, the present dean of science and Professor Richard Norman, currently chief scientific advisor to the Ministry of Defence.

When the department of biochemistry was founded in 1970, Slater, then head, advised the staff to adopt a policy to create a centre of excellence by concentrating research in one particular area, namely free radical biochemistry relating to disease and tissue injury. Although in practice such research was by no means "free" the decision was "radical" in every sense of the word.

Free radicals are perhaps most easily envisaged as molecular fragments formed by the breaking of a normal chemical bond in such a manner that one of the two electrons present is maintained by each fragment. For example, water, H_2O , can be considered to consist of $\text{H}^\bullet$ and $\text{OH}^\bullet$ radicals (by convention free radicals are often written with a dot). Likewise methane CH_4 can be considered to consist of $\text{CH}_3^\bullet$ and $\text{H}^\bullet$ radicals. Similarly hydrogen peroxide H_2O_2 can be considered to consist of either two $\text{OH}^\bullet$ radicals, or of $\text{HO}^\bullet$ and $\text{H}^\bullet$ radicals.

Because electrons prefer to exist in pairs, such fragments are often highly reactive. They tend to interact with other molecules donating or accepting single electrons. In turn, these other molecules become free radicals. Chain processes can develop and extensive disturbance can result.

Free radicals can also add on to other molecules, so forming larger free radicals as in the many polymerization reactions fundamental to the plastics industry. Alternatively, they may react with other radicals. In doing so they may annihilate each other, but at the same time become part of larger stable, but perhaps unnatural, molecules.

For chemists, free radicals had long been associated with combustion and radiation processes. For those in the food, petroleum, plastic or dye industries consideration of free radical reactions had been commonplace for over 50 years.

Historically, however, enzymes were the *raison d'être* of biochemistry. Although cellular respiration could be compared to combustion in the sense that in both instances organic compounds were oxidized with the consumption of oxygen and the formation of carbon dioxide and water, here the comparison ended. In the cell, thanks to its structure and the existence of enzymes, such oxidations occurred in small steps in which electrons were passed from molecule to molecule without the production of expensive heat.

J. B. S. Haldane, writing in *Nature* on July 9, 1932, perhaps summed up the then feeling among biochemists: "Thus Haber and Willstätter postulate free OH radicals not only in the catalase reaction but also in the oxidation of acetaldehyde... I think that the majority of biochemists will demand very strong experimental evidence before they accept the chain theory of enzyme action."

For another 40 years free radicals were to be almost completely excluded from serious biological and medical discussion. Unfortunately, it was generally forgotten that even if free radicals were not involved in all enzyme processes, this did not mean that they could be dismissed from biochemistry as a whole.

Since ancient times it had been known that fats go rancid. Indeed, the fact that these and other compounds can be rapidly oxidized by air, particularly when iron salts are present, had long been the bane of the food industry.

Our bodies contain lots of fat and iron. Why don't we go rancid? This question was largely ignored. Hence the magic bottle experiment. The bottle contained a solution of iron salt and the amino acid cysteine through which nitrogen had been previously bubbled. Under these conditions an almost colourless reduced iron complex was present.

When the minister blew into the bottle, oxygen was introduced and a rapid reaction occurred with the formation of the coloured product. Such a solution is toxic to mammalian cells in agreement with other studies showing that during the reaction free radicals are generated.

Of course in the healthy cell, structure, order and control prevail. Highly reactive substances such as iron are separated into "compartments" until they are needed.

However, not even cells behave perfectly all the time. Furthermore, by definition, disease implies disorder and everything not being 100 per cent. Due to disturbances, perhaps produced by exposure to excessive oxygen, radiation, strong light, toxic chemicals or infection, simple chemical reactions not involving enzymes may



Joseph Priestley: recognized the narrow tightrope that the body walks

The dipping of a lit candle into a jar filled with dephlogisticated air is alone a very beautiful experiment. From the greater strength and vivacity of the flame of the candle in this pure air, it may be conjectured, that it might be peculiarly salutary to the lungs in certain morbid cases, when the common air would not be sufficient to carry off the phlogisticated effluvia fast enough. But, perhaps, we may also infer from these experiments, that though pure dephlogisticated air might be very useful as a medicine, it might not be so proper for us in the usual healthy state of the body; for, as a candle burns out much faster in dephlogisticated than in common air, so we might, as may be said, live out too fast, and the animal powers be too soon exhausted in this pure kind of air. A moralist, at least, may say, that the air which nature has provided for us is as good as we deserve.

Joseph Priestley, 1775

take place and these may become central to the cell's well-being. Interference with the finely-tuned series of electron transfer reactions may occur and free radical processes may be initiated.

Even as long ago as 1775 Joseph Priestley recognized the narrow tightrope that the body walks. At high oxygen concentrations the body might become a tinder box: after all the fuel it uses for energy is made of the very same substances as the body itself.

In the food industry, antioxidants (compounds known to scavenge free radicals) have long been incorporated in fat-containing products in order to minimize the deleterious effects of oxygen. Couldn't the body possess similar antioxidants ready to spring into action when free radicals are generated?

Certainly vitamin E had often been suggested as a natural antioxidant but there was no real evidence that it was its antioxidant properties that were essential to humans. Unfortunately its academic respectability had also been somewhat sullied by the many wild claims made for it by fringe medicine. Serious suggestions that free radical processes were involved in ageing and that natural antioxidants may prolong life span also received little attention from mainstream biochemistry.

This, then, was the context in the early 1970s into which the Brunel biochemistry department was putting all its research emphasis. Happily strong support for the course taken was soon to arrive from the United States. A paper from Duke University was published in which it was proposed that an enzyme, christened superoxide dismutase (SOD), was vital to the existence of any organism that metabolized oxygen.

This was no ordinary enzyme, catalysing a reaction between molecules, however; but one which catalysed the

mutual annihilation (dismutation) of two superoxide free radicals, $\text{O}_2^{\bullet -}$. The enzyme had been found in all but one of a number of aerotolerant bacteria, as well as in a wide range of mammalian tissues: it was not detected in several anaerobic bacteria which cannot survive in the presence of oxygen.

This association with an enzyme was to mark the turning point in the biochemists' attitude towards free radicals. Soon, SOD was to become the most extensively studied enzyme of recent years. Not only was its structure and mechanism of action investigated in detail but it was also used as a method of determining whether the superoxide free radical was present in particular biochemical systems.

Interestingly, a reaction involving acetaldehyde oxidase, the very enzyme mentioned by Haldane, was one of the first in which the superoxide radical was positively identified. The presence of SOD has since been shown to affect the course of several biological phenomena ranging from the lysis of red cells to the degradation of synovial fluid, the natural lubricant of joints.

As to whether the effects observed are due to SOD preventing the damaging actions of the superoxide radical remains uncertain. Few reactions of the radical have been characterized, even *in vitro*. There is considerable evidence that in some instances the ultimate toxic species is in fact the hydroxyl radical formed from hydrogen peroxide through the reaction of reduced iron; the superoxide radical simply maintains the iron in its reduced state.

Fortunately both superoxide and hydroxyl radicals are the very same radicals produced when aqueous systems are exposed to ionizing radiation and this has provided a very convenient method for characterizing their reactions. The only proviso is that the radiation is given sufficiently quickly to allow the radicals to be followed before they disappear: hence pulse radiolysis.

When in 1971 Professor Norman, then head of chemistry at the University of York, learned that the linear accelerator at Mount Vernon Hospital was due to be scrapped within a fortnight, he immediately agreed to try to save it in the hope that it could be refurbished for pulse radiolysis. At York, it would complement his electron spin resonance equipment, and which he had built a very successful free radical chemistry group.

Unfortunately because of government cut-backs (nothing changes), the move did not materialize. Although disappointed, Professor Norman offered to pay for it to be stored in a warehouse in London's east end until a home could be eventually found. Two years later it arrived at Brunel. The specially shielded radiation laboratory was constructed and it was soon working as well as it did when first built 20 years previously.

Since that time, thanks to support from the Cancer Research Campaign and later the Medical Research Coun-

cil, the equipment has rarely failed. Notable among its pulse radiolysis achievements have been the direct confirmation that vitamin E and vitamin C can act cooperatively as antioxidants (ie that vitamin E can be regenerated at the expense of vitamin C) and the identification of the major toxic radical produced when carbon tetrachloride is metabolized.

A wide range of other free radicals have also been characterized and in many instances, the course of particular free radical reactions occurring *in vivo* under defined conditions, can now be predicted with confidence. The difficulty is knowing whether such conditions also occur *in vivo*.

Because of their transient nature, even the detection of free radicals *in vivo* let alone the observations of their reactions still remains difficult. Although electron spin resonance methods have improved considerably, much of the evidence of free radical involvement *in vivo* continues to rely on measurements of the changes occurring when compounds known to scavenge particular free radicals are introduced. SOD, vitamin C, vitamin E and various phenol and sulphur-containing compounds have been widely used for this purpose.

Since hydrogen peroxide can react in the presence of traces of iron to form free radicals, the effects of iron-binding agents and of the enzymes catalase and the selenium-containing glutathione peroxidase, both of which break down peroxide, have also been investigated. A variety of end points have been examined, including the loss of cell viability, enzyme activity, the emission of light, the production of aldehydes or hydrocarbon gases, of oxygen uptake or the reduction in an inflammatory response.

As a result of such experiments oxygen-free radicals have now been implicated in a wide range of disorders including dementia and rheumatological disease, the initiation of tissue damage during reperfusion following strokes and heart attacks; the toxic effects of paraquat on the lung, of some anti-cancer drugs on the heart, of carbon tetrachloride and related halocarbons on the liver; and in the cancer-inducing properties of various chemicals.

In parts of China the incidence of Keshan disease with its severe heart degeneration, associated breathlessness and often early death, has been reduced dramatically following mass medication with selenium in the form of sodium selenite either in a pill or as a table salt supplement. In London children with the severe neurological disorder abetalipoproteinemia have shown remarkable improvement, following high doses of vitamin E.

Free radicals have at last come out of the shadows. On July 9, 1982 (by one of those quirks of history exactly 50 years to the day since the publication of Haldane's letter) the inaugural meeting of the Antioxidant Society, later to be called the Society for Free Radical Research, was held at the Royal Institution.

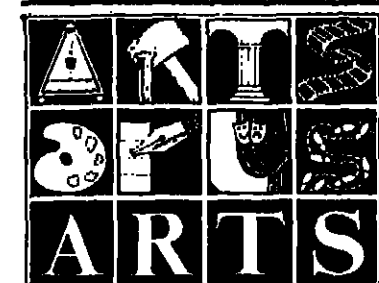
The meeting had been prompted by the visit to Brunel of one of the co-producers of a BBC *Horizon* programme investigating the tragic outbreak of poisoning in Spain. Adulterated cooking oil had been implicated and someone, probably prompted by the known tendency of oil to go rancid, had suggested that free radical processes might be involved.

During discussion it became quite clear that although free radicals continued to be an important concern of industry, there was no forum where chemists, biologists and the medical profession could meet. In spite of support from leading academics neither the Royal Society of Chemistry nor the Biochemical Society showed any interest in providing such a forum. So the society was launched.

In December a meeting at Guy's Hospital on the role of free radicals and metals in disease became the occasion for a *Lancet* editorial. The ultimate accolade of academic respectability came in January when the Royal Society organized a discussion meeting on "Inorganic and organic radicals: their biological and clinical relevance".

Happily, in spite of the cuts, research continues. The smiling minister of health has since moved on; next month comes a visit from the University Grants Council. With luck, they too will smile kindly on free radical research.

The author is head of the department of biochemistry at Brunel University.



Hugh Canning reports from Aldeburgh on a student production of a Handel opera

A final polish

Music colleges up and down the country, like our opera companies, are marking European Music Year with productions of operas by our own resident composers.

George Frederick Handel. The Royal Northern gave Manchester a rare look at *Teseo*—written for the King's Theatre Haymarket in 1713—pipping the English Bach Festival to the post by three months; the Royal College mounted Handel's first London opera, *Rinaldo*—the success of which sealed his decision to domicile himself here—in the week of his birthday, February 23; and the music department of Keele University has recently revived—for the first time since its 1737 premiere—*Bernice*, one of Handel's late attempts to inject life into the rapidly moribund form of the *opera seria* before he cut his considerable financial losses and went on to compose English oratorios.

The result of all this is that there can now be few music lovers who think Handel the composer of *Messiah*, the *Water and Fireworks Music*, the *Harmonious Blacksmith* and precious little else. Indeed, it is now fairly generally recognized that a handful of his Italian operas, almost all written for London, belong to the great masterpieces of the baroque. Four or five of them undoubtedly contain some of the richest music ever written for the theatre.

One such is *Rodelinda* which took London by storm in February 1725—largely thanks to the low-cut, brown velvet, silver-trimmed gown worn by the prima donna, Cuzzoni—and which inaugurated the Handel revival in Britain. In 1925, Joan Sutherland sang the title role at Sadler's Wells in the late fifties and has recently recorded the opera for Decca. As *Rodelinda* was composed for a clutch of the world's greatest singers it might seem a rash choice for the 1985 opera course at the Britten-Pears School in Snape.

Each year since 1983, the school's opera course has closed with two performances—each by alternate voice casts—of a fully-staged yet economical production of a Britten opera: a highly successful *Turn of the Screw* the first year, a brave stab at *Owen Wingrave* using John Piper's Covent Garden's designs in 1984. For both the school's purposes and the Aldeburgh festival it makes good sense to join forces. Aldeburgh has traditionally been the home of Britten's opera and his leading interpreter, Sir Peter Pears, is the school's director of vocal studies, passing on his recent insights to younger generations of Britten interpreters. Handel breaks this recent tradition, but Sir Peter and his co-director Nancy Evans were also fine Handel singers. They both give students in the cast individual tuition and consultation sessions when they are not needed for stage and musical calls—Basil Coleman directs, Stewart Bedford conducts, long-standing Brittenites both—and they maintain a strong presence at rehearsals to ensure that the educative function of the course does not submit to the deadline of getting a show on for the festival.

According to John Owen, the school's administrator, the course is "the only reason we do it" though he

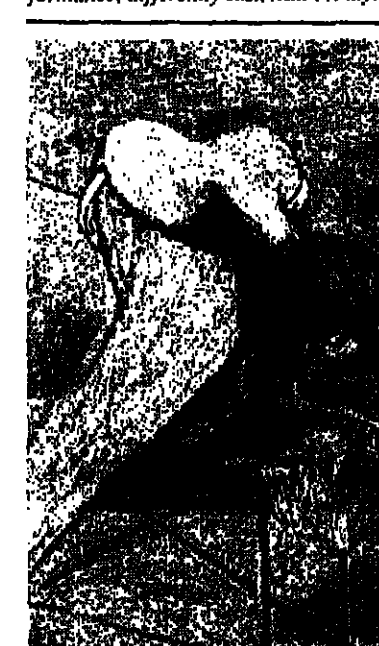
admits that students are drawn to watch this particular part of the school's programme because of the expense they get from appearing at the festival: performances are always sold out in advance and almost all the national dailies and Sundays print reviews.

The rehearsals bear out, by and large, what Owen says. The watchful eye of Nancy Evans supervises the proceedings while Sir Peter works in the studio with each singer in turn. The school is magnificently equipped for what Owen calls the "polishing process". Aldeburgh's connections draw the world's finest musicians for masterclasses and the Britten Estate has determined that they should be given the best rehearsal/teaching and study facilities—and incidentally a wonderful view of the marsh flats—at Snape. Until recently the school building played host to the Sizewell B inquiry which, filled the canteens with needed income, but meant the school had to slum it in the relatively spartan halls of Aldeburgh itself while the nuclear debate raged at home.

The school's greatest advantage when it comes to the production of opera is the permanent use of the huge Maltings stage for rehearsals. The opera has to be mounted on the most stringent of budgets so this year the school has acquired the talents of students from the Wimbledon College of Art to design the settings. They seem to have made very imaginative use of the Maltings standard curved and fluted screens. Coleman, a man of long experience in theatre and television—he directed the first *Billy Budd* at Covent Garden, the first *Owen Wingrave* for the BBC—is probably the ideal director for this kind of job.

Patience, firm, encouraging, he helps his young performers—some, though not all, already established professionals—to master the basic principles of stagecraft, motivation and movement.

"*Rodelinda* can be seen at Aldeburgh tonight. There will be a second performance, differently cast, next Friday.



"Three Studies for Figures at the Base of a Crucifixion", 1944

Events

Continuing exhibitions:

To June 8. Hunterian Art Gallery, University of Glasgow. *The Whistler Inheritance*: sixty prints from the University's collection.

To June 21. Library, University of Warwick. Marine watercolours by John White.

To June 22. Whitworth Gallery, University of Manchester. Marianne Straub RDI: a retrospective exhibition. Industrial textile design.

To June 23. Fitzwilliam Museum, Cambridge. Tolly Cobbold/Eastern Arts Association Fifth National Exhibition.

New exhibitions:

From tomorrow. Courtauld Institute, London. Drawing by Bonnard.

From June 10. Norwich School of Art.

Humane interiors

Francis Bacon Retrospective
Tate Gallery, London
until August 18

Some of the paintings—to paraphrase his 17th-century namesake—are to be tasted, chewed or digested; the vast majority, though, are to be swallowed painfully whole. Visitors to the Tate's second Francis Bacon retrospective are more apt to huddle in the middle of the exhibition rooms, viewing from a distance, than to go through the usual gallery ritual of advances and retreats, nibbles at the close detail and microscopic, head-on-side savourings of the texture. The images have, as they must, lost some of their initial shock value, but their scale and presence still insist on a certain respectful withdrawal.

All of Bacon's work communicates a tremendous physicality, both of the point and of its images. It is an art that makes distinctions between "abstraction" and "figuration" irrelevant. "I want very, very much to do the thing that Valéry said—to give the sensation without the boredom of its conveyance. And the moment the story enters, the boredom comes upon you".

Much of Bacon's work has been done in triptych form, a practice that would at first seem to demand some narrative or thematic continuity between images. In fact, despite the medium and the literary and mythic subjects he has explored, Bacon is one of the most painterly of modern artists. His subject is sensation, always in the first, only occasionally in the derogatory sense. His works demand a margin of distance not because of—or not just because of—their violent or horrific subject matter but through the strength of their plastic means.

A whole room at the Tate is devoted to the well-known portraits—after Velázquez—of the popes. Done in the late 1940s and early 1950s, these combine method and subject perfectly. The popes were—and still are, despite the efforts of Ali Agca—men apart, within the Bacon canon. They are only the most obvious instance of figures divided between carnalities and spirituality, men set aside from common humanity. Long before the events of St Peter's Square—allegedly orchestrated by the Bulgarian agents of dialectical materialism—Bacon had portrayed his pontiffs screaming in pain and rage, enclosed in cage-like frames. Figures to be worshipped and to be stared at in fear and pity.

Much of his work has had to do with the uneasy relationship between the

physical body and the spiritual nature. For an educational drop-out and late starter, Bacon is phenomenally well versed in the mythologies of the west and his work draws generously from literature. One of the most striking triptychs—from 1967—is inspired by Eliot's "Sweeney Agonistes", with its pessimistic, antimilitaristic refrain, "Birth and Copulation and Death". Elsewhere, of course, Sweeney—"Among the Nightingales"—meets up with the mythic figures of Greek tragedy, another of Bacon's main sources.

His earliest acknowledged work, the 1944 "Three Studies for Figures at the Base of a Crucifixion", is actually a savage rendition of the Eumenides—the euphemistic Kindly Ones—but admitted he meant the brutal Erinyes. The Christian mix of death of the body and resurrection of the body and spirit, or spirit alone, depending on your line of sight, is ironic alongside the Greek fixation on repeated blood-guilt and nemesis, cyclic violence that admits no transcendence. What makes the irony all the more painful is that the three figures are horribly prescient of the death-camp victims revealed to Europe forty years ago, as Bacon's first work was on show at the Lefèvre Gallery; all he has done since has been tacitly in the presence of that ghastly revelation. What the death camps revealed was the extent to which both the human body and spirit were infinitely and obscenely malleable.

Much of 20th-century art—Cubism, Surrealism, down to "performance art"—has been concerned with transgressions and dismembersments of the human form. Bacon's antecedents, or those he openly acknowledges, are Velázquez, Manet, Rembrandt, Goya and Van Gogh, who shared and prefigured these obsessions. Goya's "Horror of War" and "Los Caprichos" were less exercises in pacifism or depth psychology than in the possible transformations—violent or synthetic—of the body; Manet was an extraordinary violent artist; Rembrandt never shed from the muscle and bone beneath the skin, the visceral core under the distinguished burgher exterior; Van Gogh, twice a self-mutilator, was performance but also by artistic need the greatest self-portraitist since Rembrandt. A recent work "after Ingres" places Oedipus—"wounded foot"—beside the Sphinx, half gryphon, half woman: the riddle of humanity, and a rare explicit consideration of sexuality.

Many of Bacon's works are labelled "study" or "sketches", which suggest unfinished status. In fact, the title

describes the process rather than the thing. Bacon's dismembersments are not narrative or thematic but in the purest sense descriptive. Like Rembrandt, he is sufficiently conscientious to perceive that humanity comes from the interior outward, not from abstract essence downward; some of his most powerful canvases depict figures—papal, literary or unidentified—surrounded by great fitches of meat.

In a sense, all his works are "life studies", almost literally "still lifes". Figures are portrayed on tables, on beds and chairs, on curious unidentified frameworks. Bacon's use of the Cross is always functional rather than doctrinal; it is "a Crucifixion" not "the Crucifixion".

All of this suggests a cold prudence and obsession with forensic nastiness that is quite absent. The first figure of the triptych "Studies of the Human Body" has a long gash across his back, but the wound is clearly not intended to be horrible. Bacon can, at just as voluptuous as Ingres, but he is never content with skin-deep effects or with merely aesthetic heightenings. Nor is he without humour: a later human study has a headless figure wearing what are apparently cricket pads.

Ultimately, Bacon's most important forerunner may be an Englishman, Stanley Spencer, whose double nude—with leg of lamb—hangs outside the Bacon exhibition and whose massive "Conkham Resurrection" hangs opposite, both in the Tate's permanent collection, both exercises in the opposition of earthly and spiritual bodies.

Another source has been the photographer of human and animal motion, Eadweard Muybridge, whose series of images of movement are explicitly echoed in some of the works. To extend the line forward, it's worth pointing to Lawrence Gowing who in recent years has been experimenting with the outline of his own body, its contortions and auras. What the three Englishmen share—and as Bacon's Dublin birth doesn't rule him out of the category—is a cynicism and humour often missing in Continental and American art. The Tate exhibition shows an artist in complete command of his resources—his paint and the masterpieces on which he draws in a plastic equivalent of literary "intertextuality"—who has never yet parodied himself. His is too distinct a vision ever to be a style. "Difficult" and "problematic", he is none the less thoroughly humane and wholly sympathetic.

Brian Morton



"Three Studies for Figures at the Base of a Crucifixion", 1944

field Bach Society presents Monteverdi's *Vespers of 1610*.
June 13 to 15. Dramm Studio, University of Sheffield. *The Little Sweep* by Benjamin Britten.
June 14. Faculty of Music, University of Manchester. Lindsay Sirling Quartet.
June 19. St Andrew's RC Cathedral. Bach/Handel Tercentenary Festival presents Concertos by Bach and Handel.
June 23. Hugh Stewart Hall, University of Nottingham. Chamber Orchestra Concert: Grieg, Walton, Beethoven.
June 25. Gilbert Murray Hall, University of Leicester. Proteus Chamber Orchestra and Leicester University Choral Society (conductor Anthony Pither).
June 29. Turner Sims Concert Hall, University of Southampton. Bach/Handel

programme.

Other events:
Until June 29. Contact Theatre, University of Manchester. Mike Leigh's *Abigail's Party*.
June 11, 12. Nuffield Theatre, University of Lancaster. Alec McCowen solo performance of *St Mark's Gospel*.
June 13. Wolverhampton Polytechnic. *Women Poets Reading*: Valerie Bloom, Sonia Moore, Theresa Muldowney.
June 13. Poetry Society, London. John Ashbery reads.
June 17. Institute of Contemporary Arts, London. Wole Soyinka delivers the Herbert Read Memorial Lecture.
June 24 to 29. Clock House, Keele. Keele University Drama Society presents *The Whistler's Tale*.

BOOKS

Taking sides on law and order

by P. A. J. Waddington

The Politics of the Police
by Robert Reiner
Wheatshaf, £15.95 and £6.95
ISBN 0 7450 0022 3 and 0 092 4
Policing the Miners' Strike
edited by Bob Fine and Robert Millar
Lawrence & Wishart, £12.50 and £4.95
ISBN 0 85315 632 8 and 633 6
Contemporary Policing: an
examination of society in the 1980s
edited by J. R. Thacker
Sphere, £4.95
ISBN 0 7221 8424 7

Debate about the police and policing has become, in recent years, intensely politicized and polarized. Robert Reiner steps boldly into the midst of this debate carrying the banner of neither side. With rare integrity, he cuts through simplistic rhetoric to expose and analyse the fundamental issues in a wide-ranging examination of the history, sociology and politics not only of the police but also the context in which they operate. The book ranks both as a major contribution to the current academic and public debate about the police, and as a seminal contribution to police research. I find it difficult to restrain my enthusiasm for this book.

Reiner argues that the central problem confronting the police is how to create and maintain their legitimacy. Until relatively recently, the British police had succeeded in winning the acceptance of, at least, a large majority of the population. This is no easy endorsement of "policing by consent", for as Reiner points out, the police always act against someone. In conditions of total harmony there would be no need for a police. It is the existence of conflict that necessitates police authority. However, in exercising that authority the British police have relied upon coercion to a much lesser extent than have most of their counterparts throughout the world. Popular acceptance, albeit sometimes reluctantly given, has been the foundation of the British "police advantage".

Legitimacy was not easily won by the police whose appearance on the streets of London was met with suspicion and hostility by many classes of people. Conservative historians have painted a rather complacent picture of avuncular policemen triumphing over this initial resistance to become the friends of all. Recently, "revisionists" have sought to reveal that the police have always oppressed the poor and served capitalism. Reiner acknowledges that police history must be seen in the context of social conflicts in which the police supported, and continue to support, the established social structure. However, he argues cogently that it was in order to cope with these



September 1984: a scene at the Blinkbonny Mine, Gorebridge, Midlothian

tensions that the police sought legitimacy in political neutrality and restraint. Of course, the police can never be wholly removed from politics per se, but until recently they managed to avoid being politicized - policing was politically uncontroversial.

The maintenance of legitimacy is a precarious business and it has been the failure to avoid being sucked into partisan politics that has undermined it during recent years. On the one hand, social and political conditions have conspired to bring the police into more open conflict with various dissident groups, from student protesters to picketing workers. On the other hand, the elevation of "law and order" to the status of an election issue, often with the support of its Conservative opponents, has drawn them into the centre of political controversy. Gone are the days when a Labour shadow Home Secretary could command a speech of his Conservative opposite number as fully representing his own views on crime and policing.

The appearance of impartiality has also been denied by persistent allegations that the police are racially biased. This is a complex and delicate issue which Reiner effectively spends the bulk of two chapters discussing. Again he eschews the simplistic formulations of either side in the debate. Evidence on racial prejudice is carefully considered and so too is the much more complex problem of discrimination - is a higher arrest rate for young blacks due to a higher rate of offending or gratuitous harassment? He concludes that, while discrimination may occur, the principal influences are structural: young blacks now find themselves in a social situation that has always brought them into contact with the police. Police prejudice, expressed in verbal abuse as much as anything, exacerbates the problems and contri-

butes to a vicious cycle of mutual hostility.

In view of this hostility, many civil libertarians fear that increased police powers will be abused. However, Reiner rejects this "law of inevitable increment" just as he rejects the right-wing belief that more powers will reduce the crime-rate. Both sides of the argument proceed from the false premise that the police task is to prevent and detect crime. In fact, little police time is devoted to crime-fighting compared to the much less definite business of "keeping the peace". In this context, rules are bent, often in a good faith, because statutory recognition of the realities of the police task is lacking. The Police and Criminal Evidence Act does not explicitly recognize these realities either, but, in Reiner's view, it does offer a satisfactory legal framework within which it can be fulfilled. At the same time, PACE provides necessary safeguards, notwithstanding the inevitability of police discretion. Discretionary decisions need to be accommodated within the legal framework, and so safeguards will impose a restraint on over-zealous police action.

However, PACE will, by itself, re-legitimize the police. Hope lies in "Scarmania" - the successful redefinition of the balance between enforcing the law and keeping the peace achieved by the Scarmian Inquiry - and Newman's - policies designed to forge a new "contract" between police and public being introduced by the current Commissioner of the Metropolitan Police.

The cloud threatening to drench these noble aspirations in a continuing deluge of economic "realism" is, of course, a set of government policies more conducive to conflict than to the creation of a such a "contract". The potential for these policies to under-

mine police legitimacy was made most dramatically evident during the miners' strike. This was so not least because it invited strikers and their supporters to challenge directly the legitimacy of police action and portray it as oppressive, undemocratic and partisan. Much of this has emanated from the "loony left" which lacks credibility, but not all of it falls into this category.

Fine and Miller's collection of essays, published by the National Council for Civil Liberties publishing arm, the Cobden Trust, provides a clear example of the polarized politics which now engulf the police. It vividly illustrates how reportage and analysis can be used and misused in the service of a partisan cause or ideology. With the honourable exceptions of the essays by Martin Kettle, Sarah Spencer and Paul O'Keefe, it is certainly not possible to take this collection seriously as a contribution to scholarly debate. Every opportunity is taken to bolster the legitimacy of the National Union of Mineworkers and its pickets and to challenge the legitimacy of the police. The picture that is repeatedly painted is one in which peace-loving pickets, struggling only to maintain their industry, are unwarrantedly harassed and subjected to unprovoked violence by a police force thirsting for revenge for the Salford coke works defeat of 1972. The police are nothing less than the willing accomplices of a government determined to destroy the trade unions.

There is no recognition that working miners had any civil liberties that deserved protection. Acknowledgements that pickets were involved in violence at all are rare and cloaked in euphemism. It is alleged that reference to the rule of law is pure mystification, that it is the distortion of a doctrine which sought to protect citizens from

arbitrary state power. However, this surely ignores the fact that organizations other than the state have acquired the power to tyrannize citizens. Not only is the view presented here misleading, it is also inconsistent. On the one hand, authors advocate the subjugation of the police to the wishes of the local community. On the other, they complain about the Nottinghamshire Police excluding "flying pickets" from the county by mounting road-blocks. Yet, this police action was undoubtedly popular with the working miners of Nottinghamshire and their families. Contributors seem unaware of any inconsistency here, perhaps because they are unwilling to admit that those whom they define as "scabs" also have the right to consent to police action.

In another respect contributors appear simply naive. For example, Cathie Lloyd accepts, on the one hand, that the police took over control of public order from the army, but concludes, on the other, that riot-trained Police Support Units must be disbanded. We are expected to believe that the repressive capitalist state, of which these authors complain so loudly, is simply going to sit back and allow the control of public disorder to go by default. This is either the logic of the nursery or a cynical prescription to polarize conflict further and enhance the likelihood of radical revolutionary change. It is more likely that disbanding of PSUs would result in the army resuming its historical role of controlling public disorder and doing so with greater force than the police - even if all that is written here is true.

Fine and Miller's collection bears ample testimony to the need for the police to counter effectively this sort of attack upon their legitimacy. If the collection effectively goes unchallenged, they will surely become incorporated into liberal and left-wing mythology. Yet, despite the higher political profile of the police in recent years, they seem content to engage in debate at this quasi-academic level with one arm firmly secured behind their back.

The latest collection of essays to be published by the academic staff of the National Police College at Bramshill is strangely peripheral to this debate, so potentially damaging to the legitimacy of the police. The main reason is, as the publisher explains, that the essays were written as long ago as 1983. Furthermore, many of the essays are concerned with "safe" subjects like stress management, well away from anything that smacks of political controversy. Reading between the lines, it seems clear that the Home Office has agonized about the content of even these anodyne essays for all this time. The result is that the world has simply passed them by.

Dr Waddington is lecturer in sociology at the University of Reading.

BOOKS

Poetry first

Rilke: a life
by Wolfgang Ippmann
translated in collaboration with the
author by Russell M. Stockman; verse
translations by Richard Exner
Lutterworth Press, £17.50
ISBN 0 1788 2620 5

Rilke was ruthlessly single-minded: he subordinated his whole life to the end of writing poetry. For that purpose he created a poetic persona, peculiarly suited to this task, claiming that he wrote poetry at the bidding of some higher power. But strange to relate, he succeeded in foisting his own image of the poet on his many friends and secured for himself the patronage of wealthy aristocrats, bankers and industrialists. To live almost exclusively on the bounty of others may, to a hostile critic, appear like sponging on a grand scale, especially since many of his letters, provided as they are by references to spiritual experience and sublime sentiments, cut only too often like exercises in sycophancy. But a more favourable view of his conduct is taken by Wolfgang Ippmann who is sympathetic to Rilke the man and is not put off by Rilke's peculiar attitudes and esoteric beliefs.

For Rilke poetry mattered more than anything else: it gave him the answer to the enigma of the world since it was, in his view, able to transmute reality. The struggle to turn his experience of the external world and of his inner travails into poetry is recorded in his work, and his life was tailored to this struggle. The best of his poetry is matchless: he spoke with a voice that had not been heard in German literature before and he attained European stature.

For Rilke poetry justified his whole life. He believed that in order to carry out his special task a poet needed the right atmosphere. Since the poet was an aristocrat among men, only men and women of wealth and distinction could provide him with the right atmosphere, especially if he, like Rilke, had no means of his own. After all, why should he, at the cost of personal hardship, shore up the cliché-

ridden image of the poet starving in the garret? Not that his personal tastes were extravagant; he ate frugally and did not, of course, though admittedly he dressed immaculately and savoured a civilized environment, such as he found in the houses of aristocrats and the rich as well as in first-class hotels. Yet his life presents a remarkable paradox; he continuously insisted on safeguarding the solitude necessary for writing and at the same time befriended an increasingly large number of men and women of wealth and rank who were prepared to be of service to him, inviting him to their apartments, houses and castles, even to the point of self-abnegation, staying away from their property at his bidding.

Not even his idiosyncracies and his Don Juanism that gathered pace in the last decade or so of his life put off these acquaintances. He retained both their respect and his independence because he achieved the remarkable feat of giving them the feeling (or illusion) that it was he who bestowed a privilege on them by allowing them to know him. Even the many women whom he seduced or who threw themselves at him felt that too, although he usually escaped as quickly as he could by preaching the doctrine of love at a distance. For Rilke thought that love at best constituted "two adjacent solitudes", even in the case of his (predictably unsuccessful) marriage with the sculptress Clara Westhoff. Undoubtedly Rilke, particularly in his later years, opted for love with limited liability, preferring to be unhampered by a woman's presence and after the initial seduction carrying on the affair by correspondence.

Professor Ippmann tells us how Rilke wended his way from his impetuous youth in Prague through his restless wanderings throughout Europe to the final years as a "hermit" in the Swiss castle of Muzot. He tells the tale of the impact on him by many cities and countries - Prague, Munich, Paris, Vienna, Russia, Scandinavia, Austria, Spain, Italy, Egypt, Flanders - he explores the devastating experience of being sent to a military academy as a boy and of living through the terrors of modern urban life, he tells us how Rilke, in his later years, which Rilke had with Clara Westhoff, the daughter of a Russian general whom Nietzsche had wooed in vain and who eventually became a star-pupil of Freud's, and who stayed a good friend throughout the whole of Rilke's life. A more sceptical approach, along the lines of the late Eudo C. Mason, might at times have been more appropriate, and Professor



Rilke

Ippmann should have made more of the metaphorical rebuke given to Rilke by another great poet, Stefan George, whom he met by chance in Florence. George took him to task for writing too much and too easily. But the reproach set Rilke on the road to wrestling with his medium in order to achieve precision after having rushed into print in his early years with a facility that made many of his verses come close to kitsch. His association with Rodin in whose house he lived and whose art and mode of working he admired was also decisive.

More attention should also have been paid to the *Firebreath or Tisicani Diary* in which Rilke expressed his poetic creed. Professor Ippmann only lays the ghost of Rilke's fascism by showing that he had little interest in or understanding of politics, and that he was never a nationalist, but always cosmopolitan in outlook as befitted a poet whose spiritual home was Europe, and not any particular country. *Stable accounts of Rilke's major works* assist the English reader and help to make this lively account of Rilke's life both readable and convincing.

Hans Reiss

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Soviet Jewry

The Image of the Jew in Soviet Literature: the Post-Stalin Period
by Jakob Blum and Vera Rich
Institute of Jewish Affairs, £22.50
ISBN 0 88125 062 7

This book tackles a serious and controversial subject - the position of the Jews in Soviet society as revealed by a careful analysis of recent Soviet literature.

In the first part, the pseudonymous Jakob Blum (an East European scholar now in the West) investigates Soviet Russian fiction and memoirs published in 1954-72. He describes and assesses numerous works portraying Jews in various periods, from the trying years of the Russian Revolution, before the October Revolution, until after the Second World War. Some Soviet authors idealize Russians and the revolution, while implying that the Jews owe their material and national salvation to Bolshevism. Many leading cultural figures were Jewish - Mandelstam, Ehrenburg, Babel, Meyerhold - but memoirists cannot state openly that many of these Jews perished during the purges. Likewise, many leading politicians were Jewish, including Trotsky, Zinoviev, and Sverdlov. Stalin's regime "bred antisemitism and exterminated thousands of devoted revolutionaries". Some post-Stalin Soviet works use the Nazi persecution of Jews during the Second World War as a means of glorifying Jewish behaviour, while disparaging the Jews themselves as possible allies in the struggle. Whereas all Soviet authors emphasize the bestiality of Nazi Germany, few raise the question of Soviet responsibility for the wartime holocaust. Yevtuschenko's 1961 poem

"Baby Yar", an "impassioned protest at the wrongs done to the Jews... by both Germans and Soviets", bravely appealed to "all thinking people in the USSR to re-examine at least one of the myths of official propaganda".

Regrettably, Blum stops short at 1972, whereas he might have mentioned the Jewish poet Yehuda Mironov who chose to recite "Baby Yar" during his 1976 tour of England, his Soviet editors excluded the poem from his *Selected Works* in two volumes (Moscow, 1975, reissued 1980). Yevtuschenko was allowed to include the poem in his three-volume *Collected Works* (Moscow, 1983-84), but only after providing a footnote which diminishes the special position of the Jews as victims and equates the present Israeli government with the Nazis. Yevtuschenko now explains:

"Baby Yar" is a ravine near Kiev, where Hitler's soldiers exterminated tens of thousands of Soviet citizens, including Jews, Ukrainians, Russians, and other inhabitants of Kiev... Fascism applied a policy of genocide towards the Jewish people. By a tragic historical paradox the present Israeli government has resorted to a policy of genocide towards the Palestinians who have been forcibly deprived of their land. Blum unmasks several Soviet authors (including the perhaps "mentally diseased" Shevtsov), who represent an antisemitic trend directed by "reactionary elements in the Party apparatus". The regime fosters deep-seated antisemitic prejudices, while seeking to deny the existence of a "Jewish problem". Modern Soviet literature provides virtually no fully-fledged portrait of a Jew, although some writers do show sympathy for the Jewish predicament. "The only accepted way of writing about Jews is to mention them incidentally in a story about Russians". Blum's treatise (fluently translated by P. S. Falla) is earnest and informative. He accumulates his evi-

Gordon McVay

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Judicious approach

A Midsummer Night's Dream
edited by R. A. Foakes
Cambridge University Press, £15.00
and £2.95
ISBN 0 521 22194 3 and 29389 8
King Richard II
edited by Andrew Gurr
Cambridge University Press, £15.00
and £2.95
ISBN 0 521 23010 1 and 29765 6

R. A. Foakes's edition of *A Midsummer Night's Dream* offers a fine example of judicious editorial writing. Foakes guides the reader securely and fluently through the critical and scholarly disputes that have accumulated around the play. He manages to be informative without being patronizing, and detached without failing to offer opinions. His critical view is a centrist one, acknowledging the play's potential for dark excursions into sexuality and violence, but holding that the 20th century "in the excitement of discovery" has inevitably overemphasized this aspect of the piece.

Perhaps the very judiciousness of Foakes's approach leads to a rather more sober view of the play's meanings than experience in the theatre would confirm. For example, I find myself at the play's end less convinced than Foakes about the "stability of the ordered society for which Theseus and his 'cool reason' stand". I also find the texture of the play's theatre-language more witty and ambivalent than Foakes infers when he offers such a judgement as, "the transformations which constitute so much of the play's 'idle themes' turn out to be a means to grace, reconciliation and harmony". But Foakes does make a laudable attempt to follow out series policy by giving emphasis to the play in performance, taking up in particular Harley Granville Barker's observations about "the right changing of tune and time,

and the shifting of key from speech to speech". Valuable insights emerge, but some readers at least will be left reflecting how far we have to go before the terms of these observations compare to the refinement and subtlety (in the description of speech rhythms and vocal syntax for example) with the familiar terms employed in the analysis of literature.

Andrew Gurr is less concerned than Foakes with the life of the play on stage, and more occupied with varieties of critical response. A strong dissatisfaction emerges with what Gurr regards as the sentimental view of *Richard II*, a view he traces back to Walter Pater and W. B. Yeats, and which he considers unduly influential even today. He takes to task the emphasis attached to divine right by "an earlier generation of royalist critics such as Tillyard and Bullough", and deprecates the tendency of 19th and 20th-century criticism to attend less to the politics of deposition and more to the psychology of the deposition. For Gurr, *Richard II* remains above all a political play, tightly linked to later plays in the tetralogy, distinguished by the formal balance of its structure, and incorporating conflicting views of royal office that generate the play's political tensions.

Gurr's account is hard-headed and scholarly, very deftly interweaving comment on the play's action with discussion of contemporary political events. When he does come to staging, he is especially instructive about the play's earliest productions, possibly at the Swan Theatre, and offers a convincing discussion of the necessary stage-properties, including the possible use of canopied pavilions for the contestants in Act 1, scene 3. As a whole, Gurr's edition is thorough, scholarly and continuously helpful. It also contrives to give a strongly personal view without being in the least idiosyncratic.

As a series of texts addressed to "a new generation of playgoers and readers", the New Cambridge Shakespeare has a great deal in its favour. Introduction, text and apparatus are all highly legible, and blessedly footnotes really are footnotes, not end-notes tucked away somewhere in the volume. Attractive illustrations range from title pages and appropriate historical material to production photographs. The inclusion of drawings by C. Walter Hodges, showing "possible ways of staging" certain scenes is harder to justify. The introduction to *A Midsummer Night's Dream* does not even refer to these drawings, and their scholarly basis and critical utility remain, frankly, a puzzle. The list of further reading which completes each volume is useful, although a more uniform policy on explanatory annotation would have been helpful. Taken together, all this means that, even with strong Oxford competition, the new series is likely to be widely and profitably used in schools and universities across the world.

J. R. Mulryne

J. R. Mulryne is a professor of English at the University of Warwick.

The edition by James Engell and Walter Jackson Bate of Coleridge's *Biographia Literaria* is now available in paperback from Princeton University Press at £16.50.

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126 Buckingham Palace Road London SW1W9SD

All in the family

The State, the Law, and the Family:
critical perspectives
edited by Michael D. A. Freeman
Tavistock, £7.95
ISBN 0 422 79080 X
Women and the Law
by Susan Atkins and Brenda Hoggett
Blackwell, £17.50 and £6.95
ISBN 0 85320 181 9 and 180 1

These books throw light on biases and inadequacies in the law and the legal system, reflecting the critical approach which has gathered considerable momentum in the last decade. Their origins are rather different, however. *The State, the Law, and the Family* is based on contributions to a workshop on family law held at the Institute of Advanced Legal Studies, London, in 1983. *Women and the Law* is a cool appraisal of how the law in England has treated women and responded to their needs.

The essays in *The State, the Law, and the Family* all focus on two issues - the relationship of the state (local and central) to the family, and the interface of the public and the private spheres of social life. Both issues involve controversial and problematic matters, as Professor Freeman indicates in his introduction. The essays are grouped around four closely-linked themes - women, the state and the law (looking at maintenance, allocation of money in the household, legal ideology), children (especially law and practice regarding the protection of children), problems arising from divorce, and the institutional framework for resolving family conflict (conciliation services and family courts). As in any collection involving 18 essays and 19 different authors, the quality of the contributions is variable, but they address the common issues with indisputable coherence. Exposed to view are many of the myths surrounding family law and family conflict, such as the myth that ex-husbands and their second wives are subject to greater economic hardship after divorce than their ex-wives and children.

Another myth which is demolished is that of the so-called "neutrality" and "impartiality" of the law and of the

state. The ways in which family law so often works against the interests of women and children are made clear in essays on domestic violence and the financial consequences of divorce. Biases in the operation of the social security system against women and working-class families are also made manifest. This "debunking" and "de-mythologizing" approach (a long and honourable tradition in sociology, of course) is supported by comparative studies from France, Scotland and the Netherlands, showing how other legal systems tackle problems of child protection and the financial consequences of divorce quite differently.

The last three essays are concerned with ways in which the state assists in the resolution of family conflict. Two papers look at conciliation services and one at the concept of the family court. The author is cautious about family courts, concluding that there are difficulties as well as attractions in the idea. The book's final essay, on the resolution of family disputes, similarly sounds a note of caution against the rise of "informalism" in family law. It is argued that "privatization" and "legalization" may obscure fundamental legal questions about the disposition of property, and so on,

which need to be resolved and which must not be fudged. This collection of essays provides a lively and useful contribution to debates about the need to change family law and to modify social policy.

Women and the Law is a careful, detailed account of the way in which the law treats women. The authors have reduced historical and sociological analysis to a minimum and concentrate on the legal and institutional framework. Three main areas are discussed - equality of opportunity at work, what the authors call "the private domain" which includes matters such as sexuality, marriage, home and family, and women's rights to citizenship and to state benefits. In each of these areas Atkins and Hoggett show the extent to which the law and the legal system operates against the interests of women and in favour of those of men, and how the law adopts a strongly "male-oriented" view of the world.

There is little discussion of the role of the legal profession in this book. Discrimination against women occurs not just in the judgments of the courts, the decisions of state and welfare agencies and as the result of legislation (or lack of it). Many women

experience unequal and discriminatory treatment in their day-to-day dealings with lawyers. The law is a conservative and male-dominated profession. Eight out of every nine practising lawyers are men and there is good evidence that women solicitors and barristers continue to experience difficulties in making careers in the "man's world" that is the law. The process of change which the authors say they hope to assist, including using the law and law reform to reduce discrimination against women (and one of the authors has recently become the first woman Law Commissioner) must also include change within the legal profession itself.

If a trifle dull, this will prove most useful as a source book giving a systematic and clear account of the ways in which women have been and continue to be subject to discrimination.

David Podmore

Dr Podmore is a member of the social and technology policy division of the Management Centre, University of Aston.

كتاب من الأصل

BOOKS

Owning property

Land, Kinship and Life-Cycle
edited by R. M. Smith
Cambridge University Press, £40.00
ISBN 0 521 26611 4

This book asks a simple question: was the structure of kinship groups in England before 1850 a function of the landed property they possessed and the manner by which they acquired it? The answer to this question, though, is far from simple. It is explored in 15 substantial essays ranging from the 13th to the 19th centuries, most of them based on detailed archival research. Collectively they make heavy reading, but the effort is worthwhile and the volume as a whole a notable contribution to scholarship.

The individual studies are preceded by an "analytical" introduction, the adjective presumably being intended to justify the technical and linguistic difficulties of the piece. Dr Smith identifies five themes explored in the succeeding essays. The first is whether English rural society corresponded to the Chayanovian model in which land was held and cultivated by the patriarchal family and where there was no land market and no wage labour. The individual authors have no difficulty in disposing of the stereotype. As Dr Blanchard succinctly puts it, land could be acquired by "putrimony, matrimony and parsimony". Yet we cannot conclude with Alan Macfarlane, in an essay obviously written before his *The Origins of English Individualism*, that England was not a "peasant nation". Several contributors show that land sales supplemented rather than supplanted transfers of land within families. The precise balance between one form of transfer and another was dictated by particular economic, demographic and social circumstances, although purchase may have become relatively more important than inheritance after the Black Death.

The absence or presence of wage labour in rural society is a second theme identified by Richard Smith. Once more, it is easy to demonstrate the existence of wage earners; the interest lies in identifying the conditions in which they became more common. Family labour might well be supplemented at various stages in the family life-cycle by hired hands. More generally, from the later 14th century there was emerging a socially differentiated society – as a result of land sales – composed of large farmers, or "kukaks", who needed wage labour, and landless or nearly landless people

who provided it.

The opportunities for paid employment have a bearing on family formation and structure since marriage generally created a new household and therefore required an economic basis. The English (and European) custom of late marriage is usually explained by the practice of post-mortem inheritance. Inheritance customs comprise the third theme of these essays. The picture that emerges is larger than on the two previous issues. The most intriguing study is Richard Wall's which concludes that property and the manner of its transmission was "without major impact" on the process of family formation and on family structures (this negative formulation is a characteristic tone of the book).

The fourth theme – landlord-tenant relations in matters of property devolution – is related to the previous one but is discussed principally in the chapters dealing with the period before 1500. The final theme is the economic plight of families without property ("property-deficient" is the term used). This is mainly the subject of the contributions covering the 16th to 18th centuries.

A minor irritation of the book is that several essays, notably Macfarlane's and Keith Wrightson's, were written a long time ago (publication of the volume has been promised since 1979) and have been superseded by more substantial work. More important, there is a lack of balance, with the years before 1550 more fully and more effectively discussed than the early modern period (an important exception is Richard Wall's essay). The greatest difficulty, however, is to know to what extent the findings of the particular case studies can be generalized. Studies of village land markets reveal, in Dr Blanchard's words, "a kaleidoscopic pattern of change in the methods of land transference". Most of the evidence presented here comes from eastern and southern England and the West Midlands. It is not unlikely that it provides anything like a complete picture of the complex relationships existing between rural families and the land they farmed.

Nevertheless, it is a pleasure to observe traditional historical skills being deployed so effectively. The book also offers a way of bringing together the study of the economic and of the social history of England. Of late the two branches of the discipline have gone their separate ways, the former concerned with broad issues of economic change and the latter obsessed by the fascinating minutiae of human behaviour. The interaction of familial groups and long-term economic development is especially clear in Bruce Campbell's fine essay on 14th century Norfolk, but it appears as an issue throughout the volume.

L. A. Clarkson

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Economic ebb and flow

Trade and Civilisation in the Indian Ocean: an economic history from the rise of Islam to 1750
by K. N. Chaudhuri
Cambridge University Press, £25.00 and £8.95
ISBN 0 521 24226 6 and 28542 9

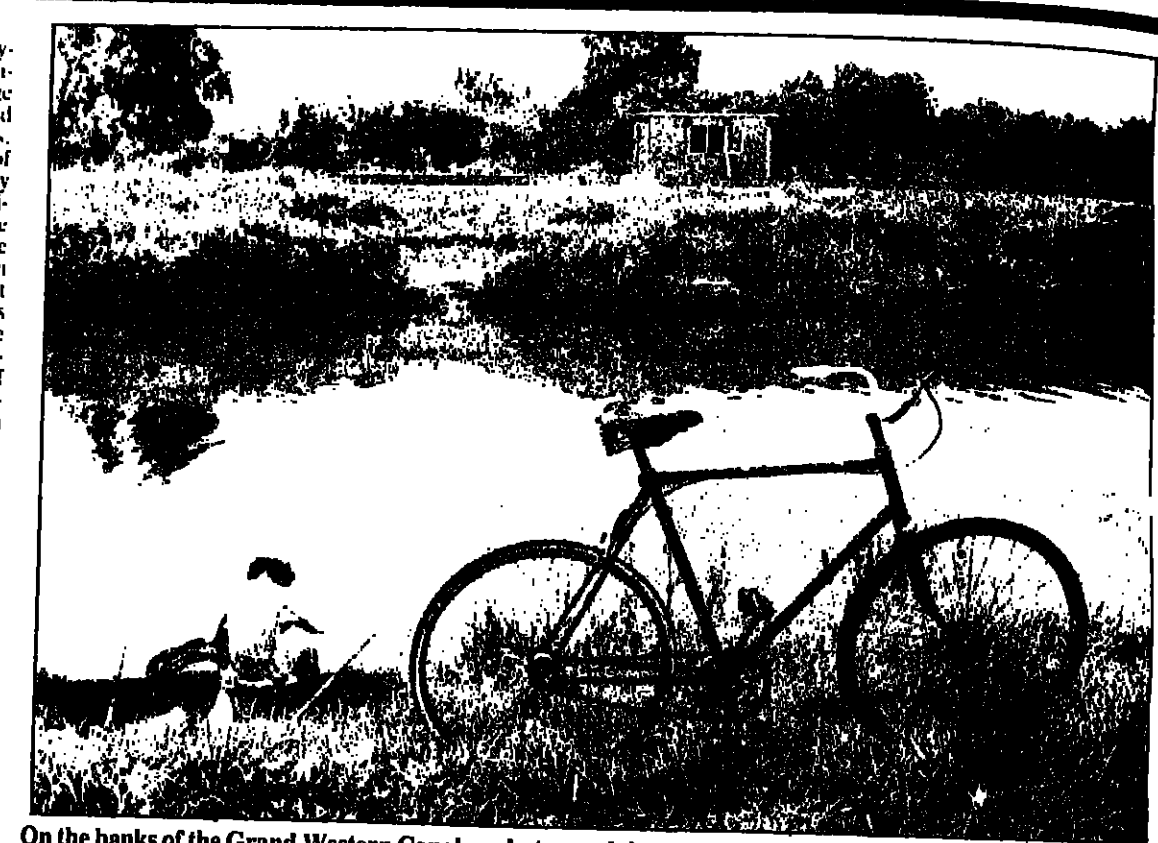
The history of the waters that cover some two-thirds of the world's surface has long fascinated historians. But what was once primarily a concern with exploration, conquest, trade and naval battles has recently given way to a subtler approach exemplified in such recent works as those of Fernand Braudel on the Mediterranean in the age of Philip II or of Professor Spate on the Pacific. To these seminal studies Professor Chaudhuri now adds this brief but perceptive account of the Indian Ocean in the centuries before the establishment of European hegemony in the East.

No great sea is more attractive. Around its shores there have flourished from remotest times powerful and distinguished civilizations – Persian, Christian, Moslem, Hindu. And across its waters, sailed in their

various times by Sinbad, Marco Polo, the fleets of Imperial China, Indianmen from Europe, Maratha pirates and Caribbean buccaners, there have flowed for millennia rich and complex trados to which there were no equivalents in the Atlantic and the Pacific before the coming of the Europeans. The current surge of specialist studies on the Indian Ocean is dexterously moulded by Chaudhuri into a learned and stimulating, though far from easy book.

His intention is "to examine [the] constant interaction between the rationality of commercial decisions, financial aspirations and the larger elements of causality embedded in the human society and the environment". This, as he enthusiastically admits, owes much to Braudel, whose views and influence are never far away, inducing on the one hand a certain foggy style, but on the other an investigation imposing in scale and based on an impressive range of scholarship.

Perhaps those to whom civilization implies something more than material matters alone will be disappointed that the concentration on economic problems means that the author is unable to develop passing remarks on the intellectual and artistic relations between different cultures. Even so, this is a magisterial survey. The book opens in true Braudellian fashion with a consideration of such climatic determinants as the monsoon and the distribution of rice and wheat cultivation. Then, starting with the emergence of Tang China



On the banks of the Grand Western Canal, a photograph by Gareth Lovett Jones from Roger W. Squires' book about the potential uses of industrial waterways, *Canal Walks* (Hutchinson, £9.95).

A new market

The Peasant Land Market in Medieval England
edited by P. D. A. Harvey
Clarendon Press: Oxford University Press, £28.00
ISBN 0 19 822661 6

What happens in rural societies when an abrupt change occurs in the relationship between land and population? This is one of the first questions that one expects this book to answer for England in the 14th and 15th centuries, after the Black Death had dramatically reduced population by a third, and land, once in short supply, became abundant.

Answers in general terms were given long ago. Sellers of land were no longer masters of the situation; buyers had to be enticed and cajoled, and harsh conditions of tenure replaced; greater variations in the size of peasant holdings emerged as a result of a burgeoning market in land. In this new survey, four authors and their editor while accepting the above picture, delve much more deeply, consider the problem over a longer period of time, and come up with even more

satisfying answers.

The occasion for this book was the completion of four theses on manorial estates, all concentrating on the fortunes of small-scale landholders: customary and free, and ranging in date from two generations before the Black Death to 1500. Janet Williamson examines three places in Norfolk in the late 13th century, Rosamond Faith nine villages in Berkshire and one in Wiltshire in the 14th and 15th centuries, Andrew Jones five in Bedfordshire in the 15th century, and Tim Lomas in south-east Durham between 1350 and 1500. They analyse their material in different ways, but the editor in an exemplary introduction and conclusion thoughtfully draws out the points of agreement, notes the divergences in local experience, and offers original insights of his own. As a result we see the Black Death in a fresh light, no longer staring aside two different medieval epochs, but rather accelerating changes that had been under way for other reasons for more than a century.

The four authors each examine the size of peasant holdings, and follow the transactions which diminished some and enlarged others. They separate the dealings that kept land within the family from those that conveyed it outside, and seek to measure the influence of inheritance customs, and the role of sub-letting and of leased demesne, in changing the basic hold-

ing. Lordly intervention is rarely described explicitly, but the authors pounce on every clue.

Many different ingredients in combination are shown to have affected the final pattern of tenant holdings: no one item, be it partible inheritance, the dictates of lords, or the proportion of free to unfree land, was alone responsible for the outcome. And the pace of change varied in different counties, and on different estates. But the authors all agree on one general trend. By 1500 holdings ceased to be guarded within the family. An impersonal land market had developed, passing land back and forth between unrelated villagers and strangers.

The crucial step from one generation to the other was taken, as Professor Harvey, the editor, persuasively argues, some time in the 12th century. Before this, when holdings were family land, they were notionally equal shares in the resources of the village, without being defined on the ground. Hence their uniformity in size, and their flexibility. They could be enlarged or reduced as land or population changed. This system was abandoned in favour of precisely defined pieces of land, measured out acre by acre, which soon required to be carefully documented. At once the peasant holding lost the flexibility to adapt to changing times, and flexibility had to be reinstated by a land market. Free land was the first to offer itself, because it alone could be freely bought and sold. But legal obstacles in the way of dividing villein land could not be upheld for ever; the Black Death finally broke down all the barriers.

A better understanding of the role of inheritance customs also emerges from this study. As the authors effectively demonstrate, primogeniture in practice may not succeed in keeping holdings intact, any more than partible inheritance leads necessarily to fragmentation. The editor underlines, instead, the more significant distinction between a concept of joint family land and inheritance by individuals. If the second concept was accepted early rather than late, it hastened fragmentation, and made far more difference than that between inheritance customs favouring elder, younger, or all sons.

The four essays that make the kernel of this book immerse themselves in their separate geographical, economic, and social landscapes, and their different findings could well bewilder, rather than illuminate, the reader. But with the guidance of the editor, we advance to a new understanding of the changes wrought by the land market on peasant holdings. This had large long-term significance, for it was from this much more differentiated peasant class that some vigorous and inventive men would emerge into the gentry class in the 16th century.

Geoffrey Scammell

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Joan Thirsk

Joan Thirsk was formerly reader in economic history in the University of Oxford.

BOOKS

River dynamics

Fluvial Forms and Processes

by David Knighton

Edward Arnold, £8.95

ISBN 0 7131 6405 0

Rivers: form and process

by Marie Morisawa

Longman, £12.95

ISBN 0 582 48982 2

Impounded Rivers: perspectives for ecological management

by Geoffrey E. Petts

Wiley, £24.50

ISBN 0 471 10306 3

Rivers are obviously of central significance for understanding the way in which the physical environment works: they provide the arteries along which water is collected from the land-surface system and along which much erosion of the continents is ultimately focused. Although their central significance has been generally acknowledged in the environmental sciences for at least 80 years, it was not until 1964 that geographers began to consider the nature and significance of river, or fluvial processes as a major area of research.

Since then however, river-based research has burgeoned to reveal how hydrological data, which relates to the stages of the hydrological cycle such as river flow, can be analysed and modelled; how river channels in section, plan and pattern are determined; what effects, intentional or otherwise, human activity has on rivers and river channels; and how rates of denudation – on average, the equivalent of about 30 millimetres peeled off the land surface of the Earth every one thousand years – can be estimated from the material carried along the rivers of the world.

On these and other related themes have been fostered by greater availability of hydrological data and greater awareness of the need to appreciate the effects of human modification on river systems. Most modern textbooks have



A red-headed Cardinal Beetle photographed by Ken Preston-Mafham for *Insects in Camera* by Christopher O'Toole (Oxford University Press, £14.95).

tended to betray their origins with a hydrological, sedimentological, engineering, geomorphological or ecological point of view. However, as such aspects cannot easily be treated in isolation, authors are gradually adopting a more integrated approach. How far, then, do these three latest additions reflect this trend?

David Knighton's undergraduate textbook, essentially geomorphological in approach, emphasizes the need for closer integration of our understanding of the river channels themselves. He endeavours to achieve this by proceeding from channel networks (including channel initiation) to fluvial processes operating in the river channel, to the way in which channel form is adjusted to fluvial processes and finally to changes in cross sections and patterns of river channels through

achieving his aim. He is particularly effective in his demonstration of the way in which the cross-section of river channels and their planform are shown to be adjusted to a number of controlling factors (including hydrology), al-

though students may wonder why the erosional features produced by rivers rather than the depositional ones, such as braided rivers and floodplains, are emphasized, and why lands and deltas (both very fluvial) are omitted. Specifically addressed to undergraduates in geography and earth sciences, the first two introductory chapters of this concise and useful book could be appropriate to first-year students, whereas the rest of the book could be used with profit by second-year or possibly third-year students.

Although at first sight, *Rivers* seems to cover exactly the same subject, it differs in both emphasis and scope. The book is intended for senior undergraduates and professionals, the emphasis throughout being on individual research contributions. These are often described sequentially, but a more integrated view is provided by

generally, of their practical reasoning) are peculiar to science? Although the question remains unanswered, I was impressed by Lynch's careful handling of it.

The prose bears some traces of its ethnomethodological heritage, especially in its more programmatic moments, but for the most part is precise and less opaque than that of the master's 1967 volume in the series. A hallmark of the work is the detailed observations and cautious interpretations of the laboratory talk discussed in the latter part of the book. There is a marvellous and perceptive elegance in the characterization of exchanges between scientists as they effect agreements, objections, reformulations, and so on.

Intended to be a descriptive study, the book succeeds at that level, but the price is a lack of explicit comment on the rich epistemological issues which simmer beneath the surface. Lynch's strategy of deliberately avoiding contentious issues in the philosophy of science means that some important points about social science investigations of science, together with interesting suggestions about deficiencies in the "social study of science", are unfortunately relegated to asides and footnotes. There is also a problem in knowing which particular aspects are being criticized, as the social study of science, as Lynch admits, has advanced considerably since the volume was first drafted. It is a pity, however, that the criticisms are insufficiently highlighted, because they are important for the emerging debate about methodological styles.

Lynch's own final reflections on the study correctly postpone any conclusive claims for its significance. Despite impressively detailed observation, it does not claim to have achieved more than "the most speculative grasp of neuroscientific work within the monstrously difficult strictures of Garfinkel's program".

Steven Woolgar

Steven Woolgar is lecturer in sociology at Brunel University.

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BOOKS

EDUCATION

Other
countriesEquality and Freedom in Education:
a comparative study
edited by Brian Holmes
Allen & Unwin, £20.00 and £7.95
ISBN 0104 370152.3 and 370153.1

In education there is surely no more fundamental and obsessive conflict than liberty versus equality. Fraternity generally gets left out. Constitutions may grandiloquently declare all children to have equal rights to the same quality of schooling. In reality, social and economic driving forces being what they are, the strongest interests lie in inequality, whether it is parents wanting freedom to choose where or what their children are taught, or teachers wanting freedom to choose what to teach their pupils. Although it is a very old theme there is a particular reason for welcoming this new book on it. At a time when central initiatives for curriculum change have been coming thick and fast, the liberty-quality

dilemma is exposing a good many raw nerve ends. It helps to stand back and see the problem in less insular perspective.

In his introduction Brian Holmes points out how much easier it has been to change school structures than curricula. British teachers worrying about centre-creep can take heart from experience in other countries where their counterparts continue to decide what is taught, even though curricula are laid down by national ministries of education. Freedom, he finds, comes nearest to licence in the Mickey Mouse smorgasbord of courses on offer in many American high schools. In his chapter on the United States David Turner records that this situation was sufficiently alarming to give rise to a report in 1983 by the National Commission for Excellence in Education entitled *A Nation at Risk: the imperative for educational reform*. Holmes's more general conclusion is that the content of education is the rock on which progress in reaching equality has foundered.

This is so even in France where familiar anecdotes have made the Minister's control over what happens in the classroom legendary ("At this moment every 12-year-old in every school is..."). The chapter by Martin McLean explains why the real picture is somewhat different. Powerful pressure groups with an interest in economic planning have been able to insist on more science and technology, a tendency reinforced by the wishes of the pupils themselves. But however persuasive the central directives in-

itiating change, the teachers' disposition to shrug their shoulders, ignore Paris and carry on as before remains remarkably unshaken, and there is very little that the inspectorate can do about it. By comparison there is an impression of much greater vitality in the curriculum debate in England. The chapter by Crispin Jones gives a useful account of developments leading up to the current effort to give some shape to the confusing variety of initiatives.

On less familiar territory Pauline Chan sets out to analyse tradition and change in the People's Republic of China. The starting point is Chairman Mao's intention "to intellectualize the proletariat and proletarianize the intellectuals" and she outlines the Five Year Plan/Great Leap Forward course of party policy. One stage of this is apparently "the policy of walking on two legs", an engaging phrase which could have done with more explanation for the uninitiated. Perhaps China is one country where the teachers do what they are told - at least they are constantly undergoing in-service education and professional development in which they "are required to attend meetings in the school to study politics and engage in 'educational transformation' discussions to upgrade pedagogical effectiveness". Both in this contribution on China and in that of J. J. Tomlin on the USSR there is a careful account of the content of the curriculum and the structure of teacher training, as laid down by the government, but it is difficult to avoid scepticism about how uniformly and effectively it all works in two such

vast systems.

From a comparative viewpoint the most interesting contribution is the final one, on Japan, where in the course of postwar reconstruction liberty confronted indigenous concepts of loyalty and obedience. The resulting accommodation between the two motivations is the theme of the chapter, which is also by Holmes. The illustrations are striking: the traditional moral education which easily overbalanced into militaristic indoctrination was successfully denounced and adapted by grafting on elements of democratic social studies; although a competition mass system has emerged, where failure in an examination shames the candidate and the candidate's family; and for all the growth in opportunities for women which the Americans set out to promote, the universities remain disproportionately male institutions while elsewhere test ceremony training, homemaking courses and instruction in flower arranging retain their appeal.

One final thing to be said is that, unlike many such collections, this one is no ragbag. The International Bureau of Education taxonomy which it contains follows which gives it a coherence which offers students a useful object lesson in how to go about comparative analysis.

Arthur Hearnden

Arthur Hearnden is general secretary of the Independent Schools Joint Council.

Partial
viewGiving Teaching back to Teachers: a
critical introduction to curriculum
theory
by Robin Barrow
Wheatshaf, £20.00 and £8.95
ISBN 07108 0269.2 and 0274.9

Robin Barrow's new book is described as a "major new critique of the field of curriculum studies, the nature of curriculum theory and the implications for teacher education". In addition we are told that the book will demonstrate "with brutal clarity that a large part of curriculum theory and research is entirely unreliable". My reading of *Giving Teaching Back to Teachers* revealed that it fell far short of these claims. Although it would be wrong to be too critical of a book because of the claims made on the dustcover, it is difficult not to be influenced by them when buying a book. It follows that some comment is justified, and in this case the description seems particularly wide of the mark.

The book turns out to be a useful review of the field of curriculum research and curriculum studies with critiques of some of the work based on the need for more conceptual precision. In addition some of the empirical studies in particular, ORACLE and Neville Bennett's *Teaching Styles and Pupil Progress* are criticized as attempting to bring off the impossible. That is to uncover general findings and develop general guidelines to teachers that are inherently unachievable.

This is an important critique. It is not, however, new or particularly radical. For example, the Sussex scheme for the Postgraduate Certificate of Education was set up some 15 years ago on the basis of a similar critique. It was argued that little benefit resulted from passing on the results of inadequately conceptualized prescriptive research or learning the works of great theorists. Instead the social sciences were to be used analytically to help beginning teachers to understand their predicament and help them become more flexible and able to learn from their experience. It is good to hear from Robin Barrow that the founders of the Sussex course were correct. The claim of novelty is, however, more difficult to accept.

The field of curriculum studies is in fact a vague and imprecise one. Robin Barrow has inevitably taken an idiosyncratic and partial view. In particular he is strongly critical of the American empiricist tradition and of those elements of the tradition that have found their way into British research. Studies involving large samples, observation schedules, categorization and number crunching, are chastised, rightly in my view, for their all too frequent methodological and

theoretical inadequacies. There are two lines of research in the sociology of education that are ignored by Barrow, both of which offer a more penetrating critique of curriculum theory and curriculum research than the one Barrow has chosen.

The first derives from James Coleman and his work on equality for the American government. It was developed by Christopher Jencks and has been taken up by John Gray in this country. This line of research demonstrates that the differences in the learning effects produced by different teachers and *visu facto* of different styles of teaching are very small. The big differences in education are produced by social and economic factors that are ignored by the education researchers Barrow criticizes and, to a large extent, by Barrow himself.

The second line derives from work by Michael F. D. Young and others. Here, the emphasis is on who is able to control what counts as "valid knowledge". It places emphasis on tracing power in relationships and on deriving explanations of why knowledge is thus controlled. Both of these lines of research are important to an understanding of the inadequacies of such curriculum research. And Barrow included them he might have come up with an explanation of why the kinds of curriculum research he finds inadequate are consistently the kind of curriculum research that governments in Britain and the USA are prepared to finance.

Colin Lacey

Colin Lacey is professor of education at the University of Sussex.

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BOOKS

EDUCATION

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Bristol Classical Press, £3.95
ISBN 086292 161 9

Reviewing these books is a little like rediscovering old, long lost friends and finding that one had forgotten quite how enjoyable and interesting they were to be with. The Bristol Classical Press has bravely reassured these four volumes from the now sadly defunct Penguin Education series. That series with its uncanny balance between the serious and the topical was always popular among students, teachers and teacher trainers and it is at that market that these reassures are clearly aimed.

Otty's book is in the form of a journal which recounts his experiences as Postgraduate Certificate of Education student and probationary teacher. It is surprisingly fresh, real and relevant despite the changes which have affected teaching in the 13 years since its original publication. Any young teacher will recognize the massive pressure of the first year, the chaos of classroom discipline and the stomach churning, sleepless nights which Otty reveals. All the pain and stress of becoming a teacher are there. So too are the frustrations and unrealities of teacher training; the theory-practice gap, the jargon-filled lectures and the otherworldliness of some of the tutors.

The process, both in college and at school, is one of learning to cope while at the same time trying to retain a sense of idealism about teaching. The process is morally crushing and Otty finds himself forced to make compromises. He says towards the end of the book "I have a curious feeling of defeat about the teaching - not just my teaching - the whole profession". It is a feeling that is rife in the profession these days and for some it shades over into despair. But Otty's account is not finally despairing or depressing, the one thing he retains throughout is his sense of engagement with the enterprise of teaching.

The same issues are taken up in a more systematic fashion in *The First Year of Teaching*. This is based on first-hand accounts of the probationary year. Indeed the book is constructed almost entirely from the words of young teachers, arranged into themes and issues. There is powerful verification of Otty's personal experiences. Here are the shambolic interviews; the early fears and insecurity; the desperate struggle to assert control in the classroom; the pressures from colleagues to toe the institutional line and forget fancy ideas from college; the lack of support; the unwillingness of teachers to talk about their problems; the lowly status of the probationer in the complex pecking order of the staffroom; the aloofness of head-teachers; the grinding tiredness; and the sense of shock at the behaviour and attitudes of older colleagues. It is a powerful process of socialization, the young teacher must pay a high price for survival. Most make it but some, represented in the last section of the book, are beaten, they surrender, they scurry away to contemplate the damage done to them by their attempt to become a teacher. It should be a shocking revelation, a scandal, but perhaps what is even more shocking is that we take it all so calmly. All this is part of the folklore of teaching, these are the accepted rites of passage that seem to survive all attempts at reform or innovation.

The second - Hannam, Smyth and

Stephenson book reports the work of the Hillview project. This project, offered as part of a teacher training course, was intended to provide an escape from the seemingly inevitable confrontation between reluctant learners and young teachers that lies at the heart of the classroom discipline problem. Student teachers spent one afternoon a week for a whole year working with and talking to small groups of "non-academic" pupils. The aim was to learn about and begin to understand these pupils as complete personalities, with a culture and a language of their own. The students were encouraged to attempt to share the pupils' views of family life and school as a way of better understanding their classroom behaviour and the responses of their teachers. In most schools the authors argue, "reluctant" pupils are denied their individuality and their social class, they become just problems. Teachers, they urge, must try to understand their pupils and by doing so better understand themselves and their work. Detachment is necessary in order to achieve insight into the teaching process. But no simple solutions are expected. The work of the project emphasizes the complexity of the teaching process and the constraints within which teachers must work.

Creber's book is probably the most dated of the four. It is a lively treatise on language work in schools, set firmly in the Britton-Barnes school. He attacks the inadequacies of, and misunderstandings rooted in, much English teaching. And condemns the oppressive speech climate created in many classrooms. His argument is for the assertion of "natural voice" within the classroom interaction. The problem is that the book lacks any sense of contemporary context. This is all pre-Bullock, there is no pressure for "back to basics" apparent here, no HMI report reasserting the place of grammar, and no mention of "skills", a current keyword in the vocabulary of English teaching.

The main strengths of these books for teacher-training purposes are their readability and relevance. On these bases alone they are guaranteed a new generation of readers among those currently setting out to become teachers.

Stephen J. Ball

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The Godfrey Thomson Unit for Educational Research in the Department of Education, University of Edinburgh, has analysed SCE O level questions and answers and now published its findings in a booklet entitled *What Makes Exam Questions Difficult* (Scottish Academic Press, £8.75). The researchers - Alastair Pollitt, Noel Entwistle, Carolyn Hutchinson and Christine de Luca looked at questions in popular subjects like geography, mathematics, chemistry, English and French.

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International Periodical Publishers



A Summerhill pupil eating spaghetti with his fingers

Ossified
attitudesSchools on Trial: the trials of
democratic comprehensive
schools
by Colin Fletcher, Maxine Caron and
Wyn Williams
Open University Press, £5.95
ISBN 0335 15022 5

I have read this book carefully - twice, in the hope that I might find something good to say about it. I cannot. It is about four schools, all of which had to undergo some kind of inquiry as a result of public disquiet. They were Rishingshill, Summerhill, Countesthorpe and Sutton Centre. There are also some mentions of Madeley Court and William Tyndale, Islington.

At Rishingshill there were problems about sex-teaching. At Summerhill staff concern about the collapse of authority in the school, at Countesthorpe about the absence of an organized curriculum and a general lack of authority-structure, at Sutton public concern about standards and, as incident, a lesson about swearing. The greater part of the book is devoted to the last and least interesting of these four controversies. This may be be-

cause the troubles of Sutton Centre are the most recent or it may simply be because Colin Fletcher was doing a research project there at the time. (Of the other two authors, Maxine Caron is co-ordinator of New Opportunities for Women at a college of further education in Australia and Wyn Williams is in the race relations industry in Leicester. Before that they had respectively lectured in media studies at Trent Polytechnic and in community studies at the University of York.)

What is a "democratic comprehensive"? For an answer we have to wait until the last chapter. It turns out to be pupil councils; teacher committees; heads with charisma, bureaucratic authority "which is dealt with rather than developed" (glorified office-boys) and "monarch(s)" in external relations - "It is this latter effort which encourages staff to support the head" is right behind him when he is in the firing line and free to sabotage when all is quiet in the trenches; and parents as potential pupils and voluntary helpers. The section on governing bodies meanders on in some sort of misty "consensual" idealism. Finally, the authors opt for self-evaluation and for inquiries, where necessary, to be modelled on the cumbersome, costly and unnecessary examples of what we have already with projected motorways and power stations. The whole of this argument assumes that schools exist for them-

selves. They are, in fact, created by and for the community as a whole, and to that they are responsible.

It is strange that we allow to writers of this ilk their self-appropriated title "progressive". For their whole approach is marked and marked by the ossified attitudes of the unresponsive left - the Pavlovian knee-jerk kicks at order as "some arbitrary and authoritatively imposed correctness", their horror of "corporal punishment", the fighting services, the traditional education system and its authoritarian foundations. (Both passages quoted approvingly from one of their galaxy of allegedly ill-treated headmasters); their snarls on the grammar school ethos (worst horror of all - Summerhill after MacKenzie: "Uniform was stressed. Latin was introduced") Instead of that, we are bidden to prefer Sutton Centre's basic skills, communication and resources, creative arts, personal relationships and community service *et al* - with no reference incidentally to religious education, the one subject required by statute to appear in the curriculum.

It is also characteristic of those "progressives" to believe not only that they are right but also that they are peculiarly picked out to be a persecuted minority, destined to be set upon by the big battalions of authority - education committees, the media and the like. When one HMI reports critically, he is picked on for trivialities and "known to be particularly against comprehensive schools" (I knew Leonard Clark), or with implied smear when another is drafted in "from another district to give the appearance of impartiality. . . he had been in known disagreement" with the head concerned. The Delgish who has only recently retired as a Senior Staff Inspector for his views on the Countesthorpe affair.

All the evidence used in this book, except Colin Fletcher's own reminiscences of Sutton, is taken at second-hand, when quite obviously many of the participants could have been asked for their views. Some of it is anecdotal and anecdotal is obviously selective.

Statements about the current context of times likely connections between event and aftermath. Highly emotive phraseology is quoted from that stock Aunt Sally of "progressives", the press - people "fired", "sacked", etc, but the authors themselves do not, incidentally, hesitate to call physical chastisement "belting", and, to add to the effect, to speak of the "belting of girls".

I should be interested to see this trio exercise their talents on the current Honeyford affair!

Arthur Pollard

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BOOKS

EDUCATION

Reasons for failure

Life and Death of the Schools Council
edited by Maurice Plaskow
Falmer Press, £14.95 and £6.95
ISBN 0 85001 058 1 and 057 3

In *Life and Death of the Schools Council*, Maurice Plaskow, a long serving former member of the council's staff, has collected a variety of personal statements from colleagues and collaborators which, taken together, illuminate such diverse issues as the politics and processes of curriculum development, the operation of an educational quango, and the relationship between the Department of Education and Science and its partners (sic) in educational government. While the book is not, and does not claim to be, a definitive history of the Schools Council, it certainly provides a storehouse of the raw material from which history is made.

The contributors include the three last council chairmen (Sir Alex Smith, John Tomlinson, Arnold Jennings), a joint secretary (Geoffrey Cockerill), and the one and only permanent secretary (John Mann); a director of studies (Professor Jack Wrigley); committee members and research officers (Eric Brinall, Don Cooper, Joan Deau, Alan Evans, Margaret Raff, Jean Ruddock, Freddie Sparrow, Maurice Plaskow himself); and a "critical friend" (Christopher Price). Wonder of wonders, there is even a contribution from the DES (Cockerill, admittedly writing about the early

untroubled days from the security of retirement); unfortunately, it was not possible to persuade an HMI to write a piece, while active civil service lips are presumably silent.

Naturally the essays vary in quality - and in style. Raff is slight and Smith rambling while there are several pretty strong ones. There is the straightforward (sometimes almost gossipy) reminiscence, and the severely analytical assessment. There is a variety of mood expressed: rueful, sadder but wiser recollections, (Price, Cockerill, Wrigley); enthusiasm and zest, notably in Evans's account of the Welsh dimension; while Smith can even now barely contain his sense of outrage at the duplicity and unscrupulousness of the DES.

So what does this all add up to? In assessing a volume of participants' contributions, one does well to heed the reminder, "They would say that, wouldn't they?" However, there is intuitively little defensiveness or self-justification and most contributors are prepared to meet head on, and squarely, the main charges laid against the council at one time or other; that it failed dimly to reform public examinations, that it had no clear sense of priorities and no procedures for developing an effective strategy, that it was a lumbering and inward-looking organization, unresponsive to the demands of the outside world, that it was in no position to ensure the successful dissemination and application of its own products; and that it was to some extent the victim of its own success in virtually inventing curriculum development as a separate field of i.e.a. activity.

This last consideration appears most tellingly in what will go down in history as "Brinall's paradox": Why should L.E.A.s pay good money to support a national organization to plan local work back in the L.E.A. itself? If, through the Schools Council, L.E.A.s have developed their own competence in curriculum development and are in a better position to ensure dissemination and implementation, does not their

success diminish the necessity for the council in its current guise? Wrigley and Sparrow appreciate the force of this paradox and admit that it was not resolved.

Does this critique then support Mrs Thatcher's recorded conviction, expressed with customary subtlety and elegance, that "the Schools Council was a lousy organization"? (which prompts one to ask why she didn't apparently do anything to sort it out in her time at the DES, either personally or through her appointment as chairman, the redoubtable Sir Lincoln Ralphs). No, it does not. As many contributors make clear, it was able to reform itself and secure the unlikely approval of Mrs. Treanman (an Oxford contemporary of the other Mrs. Thatcher) to no ministerial thanks for her because it had become a genuine parliament of education and was getting too big for its boots, assuming some of the broader functions of the

former Central Advisory Councils and attempting to itself some of the policy role of the DES. One can but speculate.

There is, finally, the role of the DES to be considered. Normally one is reluctant to condemn unheard and unread the various accounts of the DES' fairly sudden withdrawal of confidence, and its spitefully voiced charges of mediocrity and worse, it is difficult to resist the temptation. Many of the DES criticisms made in the *Yorkshire Paper* of 1976 are so general as to be little more than administrative proverbs, capable of application to almost any complex organization, or do not show in detail how the Schools Council was supposed to be notorious or exceptionally ineffective. If the DES was aware of the council's supposed deficiencies, why did its representatives not draw attention to them, or suggest possible improvements while they were still regularly attending and participating at the appropriate committee meeting? It must be admitted that the DES comes very badly out of the whole business, particularly when one bears in mind the highly positive roles played in early days by both HMIs and civil servants, and the glowing tributes paid to Derek Morrell, that paragon among administrators who devised the council's constitution, and his colleagues and early successors.

While the full story has yet to be told, Plaskow and his fellow writers will make a substantial contribution to it; meanwhile we have here a collected and stimulating collection, sometimes recorded in emotion far from tranquility, which well conveys what it was like to be associated in one capacity or another with the Schools Council.

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Spoiled for choice

Choosing Elites
by Robert Kilgaurd
Basic Books, \$19.95
ISBN 0 465 01106 3

American higher education is a vast and diverse system. At the very top of that system are a group of prestigious colleges and universities. This volume concerns the admissions policies and practices of one of these prestigious institutions, Harvard University, but by extension, it is relevant to the top 5 per cent of American higher education - that segment of the system that produces a significant part of the elite.

The book also has relevance to other countries which face problems of elite selection and pressures to widen access to the top positions in society. A few nations, such as Malaysia, India, the Soviet Union and others, which have seen a rapid rise in social engineering as a means of social engineering will find the chapter on affirmative action interesting - and perhaps a bit dismaying. *Choosing Elites* goes beyond higher education in the sense that the issues it raises have relevance to the selection of top managers in private business, in government or even in the military. Robert Kilgaurd, a professor at Harvard University, was in charge of admissions for several years. He combines practical experience and training as a policy analyst in a volume which is coherently written, free of academic jargon for the most part, and logically argued.

Choosing Elites is concerned with what Kilgaurd calls the "right tail" - the 5 per cent or so of the cohort which in of unusually high ability - on the traditional "bell curve" of abilities in which most people fall in the middle bulge of the curve. Institutions like Harvard are inundated by highly qualified candidates - those who fall into the "right tail". Harvard College, the undergraduate division, gets some 13,000 applications each year for its freshman class and accepts only 1,300 of them. Most of the applicants are (fled) students are discouraged by guidance counselors, high school teachers or parents. Those families who cannot afford the hefty expense (running to around \$15,000 per year including room and board as well as tuition) and who do not know about Harvard's fairly generous scholarship programs, generally do not apply. So the applicant pool (as they say in the trade) is impressive as in the "yield ratio" (that proportion of those admitted who actually enrol - most high school graduates apply to more than one college). Thus, institutions like Harvard are faced with the daunting task of selecting for admission to its undergraduate college, its medical and law school, and so on, from a cohort of applicants of generally very high ability. Such institutions have tried to refine the art (some would call it a science, still others a travesty) of admissions so as to provide a very precise measurement of quality. Other, extra-qualitative, elements have also intruded into the admissions process as well. For example, institutions such as Harvard try to obtain a wide geographical spread from throughout the United States. They seek a variety of interests and do not wish to enrol only high-achieving sci-

entists but want a leavening of musicians, artists, and sports enthusiasts. Indeed, Harvard is concerned with admitting a group of students who with admissions staff feels will do well but is not of the calibre to be in the top of the class - every class has to have its bottom 25 per cent! The admissions officers try to plan for that group too.

Most controversially, American universities have engaged in "affirmative action", efforts to include more blacks, women and other minorities in the student body (as well as on the academic staff). Kilgaurd points out that affirmative action with regard to blacks has some costs even if it is a valuable social goal. Kilgaurd points out that blacks score lower on the standardized tests and tend not to do as well as whites at Harvard once admitted. Yet, Kilgaurd does not argue against admitting minorities under affirmative action guidelines - but he points out that all the implications of such policies must be understood.

The Scholastic Aptitude Test (SAT) and its professional cousins, the medical admissions test (MCAT) and the law test (LSAT), among others, are discussed at length in this book. The standardized tests have come under considerable criticism in the United States in the past few years. It has been argued that they are culturally biased, that they do not predict academic success and that they tend to perpetuate the domination of white, middle-class youngsters in higher education - and thereby in the elite. After considerable discussion and analysis of many of the studies of the research on standardized testing, Kilgaurd argues that the tests, combined with high school grades, are still the best predictor of academic success in college, although he points out that the SATs have little bearing on predicting success in later life. He also argues that the other elements of the admissions process - essays, letters of recommendation and interviews have little relevance and no predictive value. Thus, Kilgaurd comes down on the side of the standardized tests as a major component of the academic admissions process.

He also argues that other factors, such as geographical location, interests, orientation toward higher education can also be used by admissions officers to obtain a "well rounded" student population. All of this does not have much relevance to the individual student, who may be unlucky enough to come from the "wrong" racial group or live in the "wrong" part of the country and may be passed over for someone from the wilds of Montana who has an interest in violin-making. Further, the interests of the admissions authorities may vary somewhat from year to year. No one is told about the "profile" that is sought out - and thus thousands of applicants are disappointed although quite well qualified.

The American academic system is faced with a curious paradox - those few institutions at the top of the system have become increasingly competitive, while many colleges and universities are searching for students. More than a few institutions have lowered their admissions requirements in order to fill the classrooms, while at the top, the Harvards are searching not only for the "perfect" student, but also for the perfect mix of students, with a dash of cosmopolitanism, some minority representation and a large number of bright upper-middle-class students who will enter law or medical school at the end of a successful collegiate career.

Robert Kilgaurd has provided a valuable book that highlights not only

the details of the admissions process at Harvard, and by extension at the elite American universities, but also questions some of the basic assumptions about this process and its impact on the American academic, business and government elites. Kilgaurd has no suggestions for dramatic change, and does not question any of the basic assumptions of elite selection in America. He does not seem bothered by the remarkable stability of that elite over time. He looks on the Harvard selection process as a kind of lottery for the bright. Once one has scored well on the SAT, then it does not make much difference who is admitted. Perhaps it is just as well the admissions staff plays games with geographical and psychological characteristics from year to year. Perhaps it would be cheaper to put the names of all of the applicants who score above the magic SAT score into a large basket and pull them out at random.

Philip G. Altbach
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Basil Blackwell

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BOOKS

EDUCATION

Selective equality

As Others See Us: schooling and social mobility in Scotland and the United States

by Keith Hope
Cambridge University Press, £25.00
ISBN 0 521 26485 5

Keith Hope has written two books in one. The first is a study of the sociology of educational selection and its relationship to the occupational system. The second is a historical essay on selection by merit in the British and American educational and political systems. At one point he describes it as "a work of history illustrated by statistical analyses". The two are woven together quite neatly, although because of the rigour of the quantitative analysis the book as a whole is not easy reading. The issues, however, are addressed perceptively, logically and analytically, and the reader has much to gain by persevering.

The first book is a monument to that distinguished psychologist who pioneered educational testing in Newcastle and Edinburgh, Sir Godfrey Thompson. In 1947 a committee he chaired for the Scottish Council for Research on Education instituted the Scottish Mental Survey, a study of selected 11-year-olds in Scottish schools, who were given IQ tests and a "sociological questionnaire". In 1964 the same sample was recontacted, aged 27 or 28, to find out what occupations they were then following. Data on 590 boys in this sample form the basis of Dr Hope's analysis of "meritocracy" (or, as he prefers, "meritselection") in Scottish education.

The sample of Scottish secondary school children is a whole, and the data appear to have been of high quality. A detailed comparison is made with an American sample studied by Otis Dudley Duncan. The book's main concern is whether the American school system is as meritocratic as it is supposed to be, compared to the selective secondary school system operated in Scotland for many years. This is examined by means of simple but rigorously defined models to which the inputs are cleverness, character and class, education is the intervening process, and the output is the occupational achievement. Education is examined both as a transmitter of background factors and as an autonomous influence. The main method used is path analysis.

This shows that in predicting occupational achievement, about 70 per cent of the influence of both father's occupation and IQ is transmitted via education compared with the US, in Scotland assessed intelligence carries more weight, and depresses the effect of father's occupation on scholastic achievement. In other words, a selective system somewhat attenuates the effects of social class by giving opportunities to the bright working-class child. Though there are broad similarities in the effects of education on later occupation, in Scotland there seems to have been greater equality of opportunity than in the US. Differences in the effect of intelligence on occupation via education were greater in Scotland. The selective system did appear to give more weight to ability, to some extent independent of social background, in determining future working life. Hence it is justified to refer to the pre-1965 Scottish secondary system as a "meritocratic" one. Later chapters extend the analysis to deal with questions such as whether there is a social bias in Scottish selection, the relationship between deprivation and life chances, and possible links between intelligence and social mobility.

The analysis is perspicacious, and fairly felicitously expressed, if not always easy to follow. The book as a whole has a rather jumpy structure. Several chapters appear to have originated as freestanding pieces, and not to have been much modified subsequently. Occasionally there are gaps. Some results, for example on occupational comparison of Scottish with English data, are inconclusive. There are a few interpolations of data which are debatable.

Near the end, Hope suggests that in Scotland there is a sort of secular version of Calvinism. This is but one of the numerous ideas and excursions with which the book is peppered; another concerns the origin of the word "cohort" in the Roman army, which shows that the author knows his Roman Wall. This is more than a conventional quantitative monograph. Indeed the second book

settling disputes or proposing theories based on an unending search for weaknesses or fallacies within existing theories", and he proceeds to analyse the approaches taken by a number of well known writers on RE.

The longest chapter deals with theories of RE, divided into those which put the emphasis on the nature of religion, and those which are more concerned with the function of religion in pupils' personal development. In the first, RE is seen as a means of transmitting a religious tradition. Ninian Smart's six-dimensional description of religion - the doctrinal, mythical, ethical, ritual, experiential and social dimensions - and questions whether these are adequate distinguishing marks of religion. He criticizes John Wilson for collapsing religious education into moral education, because Wilson argues that religion arises from the emotions and RE therefore consists primarily in the education of the emotions. Finally, Sealey denies Raymond Holley's claims that all humans have a spiritual dimension by nature, and that in the classroom there are two distinctive forms of understanding: scholarly understanding, which uses the tools of normal scholarship, and religious understanding, which is the kind of religious faith and which is logically prior to any deep scholarly understanding.

When he turns to the "functional" theories, Sealey criticizes the emphasis in contemporary religious education on "personal search for meaning", and the assumption that the pupils should be making a choice within the educational system rather than being "equipped for choices which may (or may not) be made ultimately at a stage beyond the process". He cites Edwin Cox's approach as "hidden confessionals" because Cox believes that RE should offer more direct guidance for the pupil's personal life than other subjects in the curriculum. In a discussion on "implicit religion" - with part of the Birmingham Agreed Syllabus as one of his targets - Sealey focuses on the ways in which the

distinctiveness of religion is lost, for example when it merges into a study of the local community, or of personal and social issues. He says, "It is one thing to recognize that the believer religion embraces all of life: it is another for the RE teacher to formulate a teaching programme related to this religious view".

There is inevitably some overlap between this section on approaches where the main aim is to "do something" to the pupils and the following chapter on indoctrination and commitment. Several writers are accused, in spite of their protestations to the contrary, of a wish to encourage a faith commitment in the pupils, especially Edward Holmes, for whom the teacher's own religious commitment is an important tool in helping pupils to make decisions about religion, and Michael, Grimmer, who argues that pupils should be learning about religion primarily in order to learn from religion about themselves.

In his preface, Sealey states that his book "does not purport to follow any argument to a conclusion". However, in his final chapter he reviews the approaches discussed earlier and concludes that the only form of RE which can be justified in the school curriculum is one which involves the pupils in a study of religion. He makes a brief but significant reference to the logical consequence of this position for school assemblies, namely that worship, which is a first order experience of the believer, is not a part of the educational process.

Jean Holm

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Beyond belief

Religious Education: philosophical perspectives
by John Sealey
Allen & Unwin, £12.50 and £4.95
ISBN 0 04 370130 2 and 370131 0

The debate about religious education in schools has been complicated by the legacy left by the two major changes in direction which the subject has undergone in the past 20 years. Traditional syllabuses, after the 1944 Education Act, were Bible-based and they were confessional, in their aim was to share the Christian faith with children. In the sixties, along with other subjects, RE adopted an experience-based approach, with the expression "implicit religion" referring to the popular belief that there was a religious dimension in all areas of human experience, and the aim of RE described as helping pupils to "search for meaning". The seventies saw an even more radical change, with syllabuses broadened to include religions other than Christianity, and the aim seen in more academic terms, as helping pupils to understand the nature of religion rather than helping them to find a faith to live by.

The situation is not, however, as clearcut as this brief summary might suggest. Considerable confusion arises from the ambiguity of several frequently used expressions, for example, "a religiously educated person", "implicit religion", "spiritual development" and "religious understanding", and there has recently been an attempt to combine features of the RE of the sixties with the study of religion approach.

It is these areas of confusion which John Sealey tackles in *Religious Education: philosophical perspectives*. He says: "Philosophy, thrives not on

interpersed with the first examines historically the idea of merit in English education, and the rationale for educational selection. Though inevitably sketchy, Hope's remarks complement and draw upon Gillian Sutherland's recent full treatment of England in *Ability, Merit and Measurement: merit-testing and English education 1800-1940* (1984). He begins with those mid-19th century reformers, Macaulay and Charles Edward Trevelyan, whose advocacy of open competition as a method of entry to both the Indian and home civil services placed the idea of "merit" centre stage, linked moreover to the reform of the public schools and ancient universities. This is contrasted with notions embodied in administrative reform in the United States, superficially concerned with "merit" but really with "desert". The basic differences between merit in the British and American systems turns on notions of trust. The American embodies the idea that no one can be trusted to govern, hence officials are hedged around with rules and subjected to political direction. British civil servants are regarded as peculiarly trustworthy and meritorious; this is reflected partly by their method of selection.

Hope then goes on to discuss the Labour Party's espousal of educational selection and tripartitism, set out by R. H. Tawney in *Tripartite Education for All* as early as 1922, endorsed by the Hadow Report in 1926, and carrying through until Circular 10/65 shifted the emphasis to the divisive effects of selection and instituted universal comprehensive secondary schooling. Hope argues on the basis of the Scottish evidence that there was good reason for believing that a selective system based on rigorous objective testing was more likely to foster equality of educational opportunity, and also a somewhat greater degree of equality of rewards. The system gave the working-class boy a better chance than the common school system of America. And he concludes, *pace* Michael Young in *The Rise of the Meritocracy*, that comprehensive schools operate more like the American system, and are thus less likely to bring about

is a sombre conclusion to a challenging but rewarding book.

Martin Bulmer

Martin Bulmer is senior lecturer in social administration at the London School of Economics and Political Science.

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Closing date 21st June 1985. (05620) 112

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- (D) Educational Research Methods

Salary particulars relative to the above posts may be obtained from either the South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE or the Director of Personnel, Rhodes University, P.O. Box 94, Grahamstown 6140, South Africa, from whom application forms and further particulars may be obtained. Applications close on 21 June 1985. (Late applications will be accepted).

The initial salary in each case will be determined according to qualifications and experience. Fringe benefits include generous leave privileges, financial assistance towards the University education of children at Rhodes University, and a service bonus subject to regulations. The successful applicants will become members of the University's Medical Aid Scheme and Pension Scheme and qualify for a housing subsidy subject to regulations. (70138)

American Radio Station, Munich, looks for a

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The applicant must be of Czech or Slovak origin with fluent spoken and written English, Czech and/or Slovak. Applicants must have a university education and a good general and current knowledge of developments in Czechoslovakia, with special reference to ideology and politics. Must be able to write in English and respond well to work under time pressure.

Please submit your application to:

RFE/RL, Inc., Personalabteilung
Oettingenstr. 67, 8000 München 22

THE 3rd HONG KONG INTERNATIONAL EDUCATION FAIR

A major annual international education fair aimed at giving students the latest information on overseas studies will be held between 8-10, March 1986 in Hong Kong. Participants in the last fair represent all levels of education including the British higher education. For the first time we will have a UK pavilion at the Fair. We invite your participation in this very popular event by contacting the organiser:

School & College Services, Room 1525 Star House, Salisbury Road, Kowloon Hong Kong. Telephone 3-680093 and Telex 54492

COLLEGE OF THE BAHAMAS
STAFF VACANCY

The following vacancy exists at the College of the Bahamas. The post will become vacant in September, 1985.

LECTURER IN GEOGRAPHY/
SOCIAL STUDIES

Candidates should have a Master's Degree including a major qualification in Geography and at least 2 years experience in tertiary education. Candidates must also be able to teach a wide range of courses up to at least first year university level. Familiarity with Social Studies programmes would be an asset.

Although it is desirable that all candidates should have the above qualifications, experienced candidates with lower qualifications may also be considered.

Salary range is from \$16,850 by \$400 to \$22,450 per annum. Interested candidates should submit current resumes together with written work references and up-to-date transcripts by 28th June, 1985 to:

The Personnel Officer
College of the Bahamas
Oakes Field Campus
P.O. Box N-4912
Nassau, Bahamas. (70198)

Librarians

TEESSIDE POLYTECHNIC

Information Librarian (Science)

Post Ref No. P.I.V. 05

A Librarian specialising in Scientific Information is required for the Library of Teesside Polytechnic.

The post requires a Science Graduate of good Honours standard, with qualifications in Information Science or Librarianship and with considerable experience in academic or technical libraries, or information units. Some knowledge of oral and practical experience in Computer-based Information Storage and Retrieval systems is essential.

Grade: Senior Lecturer, Burnham Scale/ N.J.C. Conditions of Service

Salary £11,175 - £13,125 (work year) - £14,000 per annum.

Closing date for applications: 27 June 1985

An Equal Opportunity Employer.
Application forms and further particulars from: The Personnel Section, Teesside Polytechnic, Borough Road, Middlesbrough, Cleveland TS1 1BA. Tel: 0942 218121 Ext. 4114 (70149)

REMINDER

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Overseas

Posts Overseas

Technical Education
Posts Overseas

Botswana

Botswana Polytechnic
Post 1: Principal

Duties: to be responsible to the Botswana Ministry of Education for the administration of the Polytechnic and the implementation of policy.

Qualifications: candidates must possess either an engineering degree or be a corporate member of a recognised professional Engineering Institution, and have appropriate industrial teaching and administrative experience as Head of Department. Candidates must be British with a UK educational background. Preferred age 40-57.

Salary: basic salary Pula 15,828 (£1 - P2.24 approximately) plus a normally tax free supplement paid by the British Government under its aid programme of \$9,024 (married) or \$7,320 (single). Benefits: 25 per cent terminal gratuity on basic salary, free air passages, housing provided at economical rental. Educational allowances and holiday visit passages for children, an appointment grant and car loan are payable in certain circumstances. Contracts initially for 30-36 months, starting September 1985 or as soon as possible thereafter.

References: 85 K 127H

Post 2: Senior Lecturer in Electrical Installations

Duties: to teach electrical installation and machines for 18 hours per week on various courses; to be responsible for all electrical installations and refrigeration courses, equipment and work shop; to be Head of Department in departmental administration and carry out such other duties as the Principal or Head of Department may direct.

References: 85 K 137H

Post 3: Senior Lecturer in Building

Duties: to teach City and Guilds craft and technician courses in building and civil engineering for 18 hours per week, later to HTD level; to administer, organise and maintain laboratory workshops; to advise the Departmental Head of equipment and material needs and obtain estimates and tenders; to set and mark examinations and undertake any other related duties as required.

References: 85 K 147H

Post 4: Senior Lecturer in Auto Engineering

Duties: to teach automobile engineering for 18 hours per week on various courses; to be responsible for all auto and heavy machinery repair courses, equipment and work-shops; to assist the Head of Department in departmental

administration and carry out such other duties as the Principal or Head of Department may direct.
Reference: 85 K 157H

Qualifications for Posts 2-4: candidates must possess either an appropriate degree or Higher Technician Diploma or equivalent plus five years' post qualification relevant industrial experience or a Masters degree plus six years' post qualification in teaching and/or industry. A teaching certificate is desirable. Candidates must be British with a UK educational background. Preferred age 30-57.

Post 5: Head of Department of Civil Engineering

Duties: to develop, organise and administer a major department of the Polytechnic; to lecture in subject speciality for 12 hours per week up to HTD level; to participate in selection of potential students and their suitability for the course; to mount specialist short courses if appropriate as requested by employers and to undertake any other related duties as required.

Qualifications: degree or HND in Civil Engineering plus six years' FE teaching and five years' industrial experience or Masters degree plus six years' experience in lecturing and/or industry. Experience as Head of Department desirable. Candidates must be UK citizens with a British educational background. Preferred age 35-55.

Reference: 85 K 167H

Salary for Posts 2-5: a basic salary paid locally by the Government of Botswana on a scale ranging from Pula 12,264-15,084 (£1 - P2.24 approximately) plus a normally tax-free supplement paid by the British Government under its aid programme of \$7,880-\$8,072 (married) or \$5,366-\$5,368 (single). Other benefits include end of contract gratuity payment, free air members plus baggage allowance. Officers may also be eligible for children's boarding school allowances, holiday visits for UK based children and appointment grant. Contracts initially for 30-36 months with the Government of Botswana. Starting Date: September 1985 or as soon as possible.
Closing Date: 21 June 1985.

For further details and an application form, please write, quoting the post reference number to: Overseas Educational Appointments Department, The British Council, 90-91 Tottenham Court Road, London W1P 0DT.

UNIVERSITY OF QUEENSLAND
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Research Centre
DIRECTORSHIP

The University of Queensland has recently established a Centre to promote collaborative research with Industry, Commerce, Government and Education in the vital areas of Computing and Information Technology. The Centre will be the first in its field within an Australian university; it has initial funding in excess of \$0.5M and the goal is that it should become self supporting in three years. The Centre will have considerable autonomy in research areas, recruitment, funding strategies and the exploitation of results.

The Directorship is the key position; it affords an excellent opportunity for leadership and foresight in widely-based, longer-term research of international standard, using or developing productive new technologies.

Applications should have an established reputation in Computer Science or a closely-related field, significant research achievements substantiated by publication, and proven skills in technical project management.

The appointment is initially for three years with negotiable salary and benefits expected to be not less than those of a full professorial position.

Closing date: 15 July, or until an appointment is made.

Further information from:
The Head, Department of Computer Science,
University of Queensland,
St. Lucia, QLD 4067 AUSTRALIA.
Phone: International 617 377 3852 or National 07 377 3852.
Telex: UNIVQLD A40315

Applications detailing full particulars to the Staff Officer, University of Queensland, St. Lucia, 4067, Queensland, Australia. Please quote ref. 22195.
The University of Queensland is an Equal Opportunity Employer (70157)

THE TIMES HIGHER EDUCATION
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A six page special report, published in The T.H.E.S. on March 29, 1985.

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